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A BRIEF TREATISE

ON

THERAPEUTICS

BY

J. MILNER FOTHERGILL, M. D., M. R. C. P.

Edited for the U. S. Pharmacopœia

BY

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With the addition of Chapters on

DIET FOR THE SICK,

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INTRODUCTION.

HOW TO CONSTRUCT A PRESCRIPTION.

The student, when brought in contact with disease single-handed and alone, is often sorely puzzled to tell what to prescribe, and how to go about it. He may have heard lectures on the practice of physic, and been told that constipation may be treated by vegetable and mineral purgatives; but how to combine them, and in what doses to give them, he is unable to decide. Or he may have heard *Materia Medica* lectures, and been told that iron is indicated in anæmia; but he is far from seeing his way to prescribe it satisfactorily. Suppose the case is that of a pallid man, with constipated bowels: the first thing to be done is to select a suitable laxative, say sulphate of magnesia. Now comes the dose. As it is to be taken several times a day, the dose must be much less than when given in one dose, as a purgative. For the latter, the average dose is ℥i; but as a laxative it will be found that ʒj. is usually quite sufficient three times a day. Then there is the anæmia

to be considered. For this the old tincture of the muriate of iron is well adapted, in a dose of ten drops at a time. We have now got the main elements of the prescription together, viz.: Magnesium Sulphate, ʒj., and Tinc. Fer. Mur. ɱx. But in all probability this mixture will gripe the patient more or less unless it be given with some warm agent or carminative. Consequently, then, the vehicle in which the essential factors are to be taken is a not unimportant matter. If the appetite be good, then mint water may be selected. The complete prescription would then stand:

Magnesium Sulphate, ʒ j.
Tincture of Iron, ɱx.
Mint water, ℥ i.
Three times a day.

But if, as is very likely, the appetite is defective, it is well to select a vegetable bitter as the vehicle. As many of these vegetable bitters contain tannin, they do not go well with iron, giving an inky color to the mixture, and so rendering it repulsive to the eye. And medicine is not usually very attractive at the best; so it need not be made more objectionable than is absolutely unavoidable. So the bitter selected may be infusion of quassia. But quassia is not carminative, so it is well to add either tincture of ginger or of capsicum. The prescription would then stand:

Magnesium Sulphate, ʒ j.
Tincture of Iron, ɱx.
Tincture of Ginger, ʒ j.
Or Tincture of Capsicum, ɱiv.
Infusion of Quassia, ℥ i.
Three times a day.

Or the patient has a cold, with some bronchial inflammation present. Then the line

would go in this direction: First we require an agent which will make the action of coughing more efficient, while it also acts upon the bronchial lining membrane, making the secretion more free, and thus causing the phlegm to be more easily dislodged. Such an agent we find in ipecacuan. Say, then, ipecacuan wine fifteen minims. Then, in all febrile conditions, it is well to excite the action of the skin. For this end the acetate of ammonia is indicated. As I do not intend to confine myself to prescriptions in English, but shall use Latin ones at times, for the better education of the reader, so as to familiarize him with both, this will stand:

Liq. Amm. Acetat., ʒi.
Vini Ipecacuan, ♏xv.
6tâ quâque horâ.

Or the patient is recovering from some acute disease, as typhoid fever, or pneumonia, and the tongue is not quite clean, and the appetite not active. Here a mineral acid is indicated, as phosphoric, for instance; in a vegetable infusion which need not be free from tannin, as iron is not to be in this mixture. Consequently the prescription will stand thus:

Dilute Phosphoric Acid, ♏xv.
Infusion of Cinchona, ʒi.
Thrice daily.

Under this combination probably the tongue will clean and the appetite improve.

Then it is well for the student not to forget that acids and alkalies do not go together, but combine, a fact not always remembered by young practitioners. Thus, for instance, in dyspepsia with much acidity, it would *not* do to write the following prescription:

Sodæ Bicarb., ℈ss.
Liq. Strychniæ, ♏iv.
Inf. Gentian, ʒi.

The strychnine being dissolved in an acid medium, hydrochloric acid, would be thrown down in an alkaline mixture, with this result, the strychnine would be at the bottom of the mixture, and consequently the patient would get none of it till he came to the last dose, and then he might get more at once than was quite agreeable. In such cases the Galenical preparation must be chosen, the Tincture of Nux Vomica. The prescription then ought to stand:

Sodæ Bicarb., ʒss.
Tinct. Nucis Vom., ℥x.
Inf. Gentian, ʒi.
Ter in die.

To give iron with a vegetable bitter containing tannin is a very common error, producing a repulsive looking fluid. But this avoidance of incompatibles went to an undesirable length, when it decided that digitalis could not be combined with tincture of iron. In cases of heart weakness the following is an excellent combination:

Tinct. Digitalis, ℥x.
Tinct. Ferri. Mur., ℥x.
Sp. Chloroform, ℥xx.
Inf. Quassiæ, ʒi.
Ter in die.

Spirit of Chloroform is pleasant to the taste, and can often be added to mixtures with advantage; it is also a stimulant.

Or a patient may have constipation, with a foul tongue and a bad taste in the mouth. Here the fur, which consists of dead epithelium cells which are not properly shed, is usually stained by the bitter bile acids or their salts, so it is well to give a laxative which will also contain an ingredient which will act upon the liver, as mercury, for instance. The combination would then stand thus:

Pil. Hydrarg., gr. i.
Pil. Col. Co., gr. iii.
To be taken at bed-time.

If the bowels are not freely opened, then a seidlitz powder, or an ounce of "black draught" in some warm water next morning. Morning laxatives should always be taken warm. By so doing their action is more rapid, and the bowels are less apt to tease the patient during the course of the day, which is often very inconvenient. These minor matters are usually worth attention.

INDICATIONS FOR TREATMENT.

After making a diagnosis as to what is the matter with a patient, the next thing to be done is, to determine what is the leading indication for treatment. The patient may be suffering acute pain, as in colic. Here the pain is at times excruciating and must be relieved. For this end opium stands *facile princeps*. "Mash Allah" (the Gift of God) is stamped on the cakes of opium by the Orientals. Then, as the colic is due to violent spasm of the muscular fibre of the intestine, it is well to give the opium with a carminative, as mint water, for instance, which will make a convenient vehicle. Then the pain is very depressing, as all pain is in which the abdominal portion of the sympathetic nerve is involved, and therefore a diffusible stimulant, acting rapidly, is desirable. Such an agent we possess in carbonate of ammonia, of which sal volatile is a preparation. It would be well, then, to let the prescription stand:

Tinct. Opii, ʒ ss.
Sal Volatile, ʒ i.
Aq. Menth. Pip., ℥ i.
Statim.

In these cases of severe depressing pain, a full dose of opium at once is in every way better than repeated small doses. (A word of caution as to dose. Children are very susceptible to opium, and small doses often act very potently upon them. All agents which "depress" nerve action as part of their effect, are to be given with caution to children.) In many cases of colic the only thing at hand may be some laudanum and some spirits. It would then be well to give the laudanum, with two ounces of any spirit. In any case of colic, it is well to put cloths wrung out of hot water, and freely sprinkled with turpentine, upon the abdomen until relief is attained.

Or the patient may be in a fit. Here really little can be done except to see that the patient does not do himself or herself any injury, if convulsed. In epilepsy, to loosen the collar and free the neck is indicated; and if the tongue is being bitten, put a piece of soft wood or a cork, betwixt the teeth to prevent the tongue being nipped. If a young woman, and especially screaming, it is probably hysteria, and then a jugful of cold water dashed over the head and face is effective, or a hand may be placed over the nose and mouth till the performance is arrested, and converted into a struggle to breathe. If it is pure syncope, it is well to allow the patient to remain in the recumbent posture until spontaneous efforts are made by the patient. In syncope there is temporary failure of the heart's action, and it is not desirable to remove the patient from the horizontal posture, until there is evidence of the circulation being restored. If the patient be not in the horizontal posture when the faint comes on, she should at once be laid flat.

Or the patient may be bleeding profusely. Here it is desirable to put pressure on the vessels from which the blood flows. If from an artery, the pressure must be between the heart and the bleeding orifice; if a vein, at the distal end of the limb; if hæmoptysis, or hæmatemesis, keep the patient absolutely still under all circumstances.

And now let me tell the youthful reader what he must NOT do. He must not give a stimulant if the patient faint. Here syncope is nature's mode of arresting the hæmorrhage; and though it may appear to indicate a supine and indifferent attitude, it is not wise to interfere with the syncope. To give a stimulant is to excite the heart's action, rouse the circulation, and restore the hæmorrhage. But so carry yourself that the alarmed bystanders shall recognize the fact that your inactivity is not the consequence of ignorance and indifference, but of greater knowledge than they possess. In their good intentions, persons guided by impulse, combined with ignorance, may become murderers.

Or a patient may be suffering from great excitement, from brain disturbance, or from being mentally upset. Here a calm, self-possessed manner and bearing are of the greatest service, but medicine may be useful. Here a sedative is indicated, as chloral hydrate, or bromide of potassium—alone or combined, and they may be given in what is termed a calmative, as camphor mixture, for instance. The prescription would stand:

Chloral Hydrate, ℈ss.
Potass. Bromid., ʒss.
Mist. Camphoræ, ℥i.

If required, this must be repeated in three or four hours. All depressant drugs are to be

given with care and prudence, and the action of opium, chloral, and bromide of potassium will be contrasted in a subsequent chapter.

Or the patient may be suffering from dyspnœa — the respiratory efforts being very laborious. Here it is well to give rapidly diffusible stimulants, which act promptly on the centres of the circulation and the respiration. Such agents we possess in ammonia, belladonna, and strychnia, while digitalis acts powerfully upon the heart. It will be well to prescribe in severe dyspnœa either:

Amm. Carb., gr. v.
Sp. Chloroform, ℥xx.
Liq. Atropiæ Sulph., ℥ii.
Aq., ʒi.

to be repeated in two or three hours; or if the right ventricle be failing, the prescription would be:

Am. Carb., gr. v.
Tinct. Nuc. Vom., ℥x.
Tinct. Digitalis, ℥x.
Aq. Menth. Pip., ʒj.

also to be repeated if necessary. Or if the reader be very inexperienced, and not familiar with modern therapeutical research, he might take a lower but safer (*i. e.* as regards public opinion, but not as regards the patient's life) standing ground, and prescribe:

Sal Volatile, ʒi.
Sp. Chloroform, ʒss.
Aq., ʒi.
4tâ quâque horâ.

Where there is acute indigestion, it is well to empty the stomach by administering an emetic, as sulphate of zinc (ʒss), or ipecacuan wine (an ounce); or if these be not at hand, some mustard and hot water, or tickle the fauces with a finger until vomiting is induced. The same holds good of acute alcoholism. In all emergencies keep as cool as possible, and do not act hurriedly or excitedly, or you

may do the wrong thing and defeat your aim.

Then there is the question of the local measures to be employed. Heat is almost always soothing, except in headache, where cold applications give more relief. Cold water and vinegar, and eau de cologne, where practicable, are good measures for headaches. In *dyspnœa*, where the right side of the heart is embarrassed, it is well to put hot poultices to the front of the chest; the heat stimulates the heart. In local abscesses a hot poultice is soothing. The case may be one of a broken rib, where a jagged end is rubbing the lung-pleura at every respiratory act; here the most efficient local measure is to put the parts at rest, or as near as is attainable, by strapping or banding. In that form of pleurisy where a small nodule of tubercle, protruding from the lung, rubs on the costal pleura, and excites local inflammation and pain, then putting the part at rest by strapping gives the patient relief. Or there is a severe bruise causing much pain. Here soothing applications, as a piece of folded flannel, wrung out of hot water, and freely sprinkled with laudanum, or a poultice of poppy heads, are good measures to adopt. If a sprained joint is very painful, it may be swathed in bandages soaked with cold water, or cold water allowed to drop on the bandages.

WHAT TO AIM AT.

When called in to see a patient, the student must expect to find the person acutely ill, or thought to be so by those around — relations, friends, or neighbors. The first thing to determine is, which is the case. It is not always easy to do this. How

to determine which of the two is the case calls out the extent of the practitioner's knowledge, and tests the attention he—whether a young or an advanced student—has paid to the instruction of his clinical teacher. If the pulse, respirations, and temperature all be over the normal, then organic mischief of an acute character is usually afoot. On the other hand, there may be collapse or rupture of an internal blood-vessel without any of these. When so called in, do not rush at the patient with a stethoscope, but find out something about the individual, and then proceed to the disease and its amount. It is quite as important to know something of the patient generally, as it is to determine the extent of a pneumonia, for instance. You are going to treat the patient rather than the disease. You are going to influence the morbid process in the individual. Above all things, keep your head clear and cool, and so give your knowledge, be the same more or less, a fair chance to exhibit itself. First give relief to the patient; then relieve the minds of the friends. Make as good an impression as you possibly can, in order to acquire the confidence of the patient and the patient's friends, so that they will follow your instructions implicitly. The success of your plan of treatment will usually turn on the thoroughness with which it is carried out, and if you do not secure the confidence of the patient's friends, you may be pretty certain that they will not follow your instructions. Never be oblivious of the fact, nor be too acutely conscious of it, that the friends are examining you while you are examining the patient. Bear yourself accordingly, and it is better to err, if err you must, on the side of

excessive care in your examination. Youth is apt to be self-confident, and it is very easy to make a mistake, even when years have rolled over the practitioner's head and taught him caution by a painful experience. Be not flippant then, and carried away with the impression that you have arrived at your diagnosis by some inspiration. Be painstaking in your examination, and thoughtful in your plan of treatment.

CHAPTER II.

ASSIMILATION AND EXCRETION.

It is very important for success in treatment that the student have some good broad views as to assimilation and excretion, for, after all, sound physiological knowledge is the basis of the practice of physic. Let us consider digestion first. Digestion is essentially a process of solution. Our food is stored up in insoluble forms, else a steady rain might imperil much of animal life. Starch, then, is converted into sugar by a process of hydration (that is, the adding of a molecule of water) under the influence of the ferments of the saliva. This sugar, being soluble, is absorbed from the alimentary canal into the blood, and then reconverted back in the liver into glycogen, or animal starch, by the removal of a molecule of water. This glycogen is given off as required into the blood as sugar, and is burnt by oxidation, and is largely the fuel-food of the body.

Then the tissue-food, which is albuminous, whether as albumen, fibrin, casein, or legumin, is digested by the gastric juice with its ferment, pepsin, and is also dissolved by a

process of hydration, in which the highly insoluble "proteid" is converted into the highly soluble "peptone," which readily passes through the wall of the alimentary canal into the blood. Here it is again passed back into a "proteid" by the removal of a molecule of water; without such change the peptone would as easily escape out of the blood as it passed into it. From these albuminoids the tissues are made in growth, and repaired in adult life.

Fat is saponified to some extent by the bile, emulsionised by the secretion of the pancreas, so that it is taken up by the lacteals of the intestinal villi, and thus is brought into the system. Fat is not only fuel-food, but is essential to the formation of healthy tissues.

But for solution "disintegration" is essential. Before either starch or albuminoids can be dissolved by hydration, they must be finely divided or disintegrated. For this end our teeth are provided. The food taken into the mouth is masticated, rolled about by the tongue, and mixed with the saliva, so that the starch is converted into sugar. This action of the saliva ferment, or diastase, is arrested as soon as the contents of the stomach become acid. Can we do anything to aid this part of the digestive act when imperfect? Sialogogues, or agents which increase the flow of saliva, are not a very important class of therapeutic agents. All tasty or sapid substances excite a flow of saliva, but the medicinal sialogogues are not many. Pellitory, jaborandi, and mercury are all sialogogues, but are not used as such to excite the flow of saliva for the conversion of starch into sugar. For this end we use artificial diastase, or maltine, produced in

malting barley. This ferment, diastase, converts the starch into sugar. And is now largely used in the feeding of delicate children. It should be added to the milk and gruel before it is taken into the mouth, not given after a meal, to be at once killed by the acid contents of the stomach.

Then as to the digestion of albuminoids. Such forms of albuminoid matter as fall readily to pieces in the stomach, are more digestible than those which are disintegrated with difficulty. Thus, loosely-fibred fish, as whiting, is much more digestible than close-fibred beefsteak. Where there is much pain produced by the digestive act, the food, when solid, should be such that it is readily disintegrated. Pastry and closely-fibred meat should be eschewed. False teeth, if necessary, patience in the act of mastication, and properly selected food, are the means by which we seek to furnish relief when the mechanical obstruction to the digestive act is the source of trouble.

Then as to the solution of albuminoids. We do not always attempt to directly stimulate the secretion of gastric juice, though many agents will affect that secretion, but now commonly use pepsin procured artificially from the calf or pig. But we may combine these measures. The agents which increase the flow of gastric juice are called *stomachics*. They increase the vascularity of the stomach and stimulate the flow of gastric juice. Such agents we possess in alcohol and arsenic, each of which produces inflammation of the stomach in toxic doses. Ipecacuan produces this vascularity in small doses, but excites vomiting in large doses. An old dinner pill ran:

Pulv. Ipecacuan., gr. i.
Ext. Cinchonæ, gr. i.
Pil. Al. et Myrrh, gr. ii.

Ringer tells you that an alkali will stimulate an acid secreting surface, consequently alkalies may be given before meals, thus:

Pot. Bicarb., gr. vi.
Fowler's Sol., ♏ii.
Inf. Gentian, ʒi.

Here is combined the alkali with arsenic in a bitter vehicle.

BITTERS.

We do not know the action of bitters, but we know well empirically that bitters increase the appetite and improve the digestion. Those containing tannin, as gentian, chiretta, or cinchona, etc., should not be given along with iron, as they form a tannate of iron (ink). Quassia is the bitter to give with iron. Quinine is to be used with iron, and not cinchona.

Then as to the use of artificial pepsin, which can now be procured in various forms. Given immediately after food, pepsin preparations add considerably to the solution of albuminoids when the gastric juice is defective in quantity or in solvent qualities. Such, then, are the means by which we effect the digestion of albuminoids.

Then as to fat. Fat, in the forms of fat, oil, and butter, is not acted upon by the saliva, nor yet by the gastric juice. When the contents of the stomach are thrust through the pyloric ring into the gut, they come in contact with the bile, and the bile acids saponify the fat. Oil will not run through filter paper, but when that filter paper has been moistened with bile, the oil passes through the paper readily. A process of sub-

division equal to disintegration goes on with fat before the pancreatic secretion emulsionises it, so that it can be taken up by the lacteals. Can we do anything to aid this digestion of fats when defective? We can, by seeing that the fat is in a state of fine subdivision before it is eaten. Thus, butter well rubbed into stale bread, cut thin, is much more readily digestible than when spread in a thick layer, a fact never to be forgotten when delicate children are to be dealt with. Then fats vary in digestibility. Cod-liver oil is the most digestible of all fats, and can often be assimilated when the digestive powers are unable to digest other fats. Then come cream or butter, or pig fat; solid mutton or beef suet requiring the strongest digestive powers. Agents which increase the flow of bile, as ipecacuan, or sulphate of soda, aid materially in the assimilation of fat; the first may be given in pill (see p. 16), the other added to the patient's bitter mixture in ʒss. doses.

Sod. Sulphat., ʒ ss.
Ac. N. Mur. Dil., ℥vi.
Inf. Gent., ʒi.

will often be found a useful combination in simple loss of appetite with impaired digestive power. We can also stimulate the pancreas by the administration of sulphuric ether. The pancreatic secretion not only emulsionises fats, but, in an alkaline medium digests albuminoids, and converts starch into sugar. Consequently we give artificial pancreatic preparations at the end of the digestive act, to aid the defective action of the pancreas, when indicated.

ARTIFICIAL DIGESTION.

The digestion of food out of the body is now readily attained by the use of preparations of the pancreas of the pig. Milk and water, or milk-gruel, can be digested by pancreatic solutions in the proportion of one pint to a teaspoonful of *liquor pancreaticus* (William Roberts), and ten grains of bicarbonate of soda (in solution). Raised to a temperature not exceeding 150° Fahrenheit, the nearer this the better, and put under a "cosey" for an hour, digestion is then nearly complete. Such artificially digested food is indicated in typhoid fever, gastric catarrh, gastric ulcer and cancer, and in all conditions of acute debility, especially when curd from plain milk, is found in the stools.

Then assimilation can never be properly carried on if the bowels are loaded. Consequently always attend to the bowels. Keep them open by laxative pills as Pil. Col. Co. at bed-time, and, if necessary, a seidlitz powder, purgative waters, Carlsbad salts, or, better still, sulphate of soda and Rochelle salts (Sod. Pot. Tart.) combined in a warm bitter solution. In delicate persons, in all elderly persons, and in women at the change of life, care must be taken to see that the laxative does not gripe, and this may be done by adding a carminative, as Pulv. Piperis Nig. gr. ii., to the Pil. Col. Co. gr. ii.; or tincture of ginger to the morning mixture. A glass of cold water first thing in the morning will often suffice to regulate the bowels. Hyoscyamus is often added to the night pill to relieve griping (gr. i).

HÆMATICS.

Then beyond the assimilation of the different forms of food, *i. e.*, starch, albuminoids, and fat, comes that of the different salts of lime, soda, potash, and iron. Lime is requisite for the formation of the bones: the blood salts for health, as anti-scorbutics, and for healthful assimilation, as seen in the effects of the profuse night sweats of phthisis, where the blood salts are drained away, and in the return of the appetite and assimilating power as soon as they are arrested. Lime is given to children chiefly in the form of phosphate. In malnutrition, lime is largely given in the form of phosphites or hypophosphites.

But of all hæmatics iron stands first. Iron is a tonic when given in full doses, as the old tincture of steel ℥x. to ℥xx. As a hæmatic, it may be indicated in smaller doses.

Tinct. Fer. Mur., ℥x.
Inf. Quassiæ, ʒi.
Ter in die.

is a capital tonic. Iron should always, if possible, be taken after food, say half an hour after; it can then be combined with arsenic, strychnine, or quinine. A good tonic pill is this:

Strychniæ, gr. i.
Fer. Sulph. Exsic., ʒ ss.
Pulv. Pip. Nig., ʒi.
Pil. Al. et Myrrh, ʒ ii.
In pil. 36 div.
i. bis in die.

A gentle action on the bowels is always good with a course of chalybeates, especially at the start. When iron causes headache, or a sensation of heat, it is well to give with it a mineral purgative, as

Mag. Sulph., ℈i.
Cit. Fer. Quiniæ, gr. v.
Inf. Quassiæ, ʒi.
Ter in die.

Then a stimulant form is sometimes indicated, as in certain anæmic cases with amenorrhœa, when the ammonia-citrate is very useful. Or it may be required as an astringent in certain cases, as in atonic diarrhœa, and the perchloride and pernitrate are both powerful astringents.

Tinct. Fer. Pernitr., ℥xv.
Inf. Calumbæ, ʒi.
6tâ quâque horâ,

is a good diarrhœa mixture in not very severe cases. The form of iron, as a medicine, which approaches nearest to the form it exists in the blood, is "dialyzed iron" now sold everywhere. Under a course of iron the blood becomes richer, the face gains color, the patient improves in strength, and is lustier. When the anæmia depends on a specific poison in the blood, iron must be given along with the proper specific, as in gout (potash), in malaria (quinine), in syphilis (mercury), in lead poisoning (iodide of potassium). Certain proportions of soda and potash are required for the blood, and notably common salt (chloride of sodium), as this furnishes the hydrochloric acid for the gastric juice, and the soda for the bile salts. The buffalo will travel hundreds of miles to get salt, and so will certain African tribes.

There are, however, conditions where iron is contra-indicated. It should not be given while acute inflammatory conditions are present. When the tongue is bare and denuded of epithelium, it is useless, indeed injurious, to give iron. When the tongue is laden with a thick fur, a layer of dead epithelium cells, indicative of the condition of the intestinal canal, then iron is not absorbed; and it is useless to prescribe it till the tongue

is clean. In all conditions of biliary disturbance, and where lithates are present in the water, it is well to withhold iron.

Water is a hæmatic in certain circumstances. A draught of water on getting out of bed in the morning bathes the tissues, removes waste material from the body, and is an excellent hygienic measure. When containing a certain proportion of salts it serves this purpose even still more efficiently; and the many palatable drinking waters now in vogue testify to the widespread conviction of this. Let this be ever borne in mind by the youthful reader that dilution with water in sufficient quantity is a most important matter in courses of alkalies and chalybeates. The advantage of mineral springs lies in the great dilution of the essential factor of the spring. The late Dr. Fuller insisted on this matter of dilution, and my experience corroborates his in every respect. Say the patient is taking the following mixture:

℞ Pot. Bicarb., ℈ss.
Ferri Amm. Cit., gr. v.
Tinct. Nuc. Vom., ℥x.
Inf. Quassiæ, ℥i.
Ter in die,

it will be found that taken half an hour before meals with a tumblerful of water, the results are much more satisfactory than when no rules as to "when" or "how" are laid down or followed. Such a mixture is indicated when the acute symptoms of rheumatic fever have abated, and in many forms of atonic rheumatism or gout.

TONICS.

We are very little wiser as to the *modus operandi* of tonics than Galen was. A tonic is an agent which gives tone to the system.

Quinine, strychnine, and at a long interval, gentian, calumba, and chiretta, are bitter tonics. . Cascarilla, cusparia, and chamomile are aromatic tonics agreeable to the stomach. Then the mineral tonics are iron, arsenic and copper, chiefly the two first. In convalescence, in conditions of debility, and loss of appetite, tonics, and especially the bitter tonics, are indicated. So long as the tongue is furred, it is well to withhold iron, and to give something like this:

℞ Quin. Sulph., gr. i.
Ac. Phosph. Dil., ♏xv.
Inf. Gentian, ʒi.
Ter in die.

Or,

℞ Liq. Strychniæ, ♏iv.
Ac. Hydrochloric. Dil., ♏x.
Inf. Cascarillæ, ʒi.
Ter in die,

and to act upon the bowels with the measures described, p. 18. Under the influence of a tonic the appetite improves, the digestion gains vigor, and the patient experiences a sensation of energy dependent upon a feeling of well-being. How far tonics act specially on the centres of the respiration and the circulation is not yet definitely known. Probably tonics act on all nerve-centres, some acting more on some, others on other centres.

EXCRETION.

To comprehend excretion correctly, the student must grasp the subject from the point of view of evolution. In the little jelly speck, the amœba, the tiny particle of food is seen to disappear by a digestive act which entails no special organs. As life advances upward, we find an alimentary canal forming, and upon this a liver, etc., become developed. But all organs with ducts are but por-

tions of the general excretory surface; more specialised areas still possessing the characters of the primitive exterior. Consequently we find that in conditions of jaundice, the bile is not excreted by the bowels, as it is normally, but by the kidneys, for the urine will leave a deep bile stain on the linen; or by the mammary glands, the milk also staining any object with which it comes in contact. In conditions of arrested action of the kidneys we may have, and commonly do have, uræmic diarrhœa, and even ureous vomiting, while the breath has a urinous odor. When the action of the kidneys is arrested or defective, other excretory organs take up the work, eliminating the nitrogenised waste. The kidneys are involutions of the skin, and in scarlet fever, when the cuticle is shed, there is very frequently "desquamative nephritis." Recent observations have demonstrated that in the presence of urea, uric acid, the phosphates, chlorides, and sulphates of the alkalies, the constituents of sweat, are those of urine. Even carbonic acid, which is usually supposed to be given off by the lungs only, is exhaled from the skin. In the lower animals, cutaneous respiration is indeed an important matter. The practical utility of remembering the common origin of the excretory organs lies in the fact, that other organs can help out special organs when functionally disabled. Thus in acute nephritis, we put the bowels into energetic action with cathartics, and excite the skin by hot baths, till the patient sweats freely, and so relieve the kidneys. Not uncommonly diarrhœa is a compensating action, not a disease *per se*. The first patient seriously ill when I took my father's practice, I killed. She was

the subject of chronic Bright's disease, of which I was not aware, and had severe diarrhœa, which, after much difficulty, I succeeded in arresting by the usual combinations of astringents and opiates. Bnt instead of improving, when the diarrhœa was checked, in a few hours the patient grew worse, and soon went into uræmic coma, which proved quickly fatal, the breath producing grand crystals of hydrochlorate of ammonia on a microscopic slide moistened with dilute hydrochloric acid. I fully realized what I had done, and was very sorry for the poor farmer whose wife was thus removed, but my regret did not and could not restore to him his wife, however much I might take the matter to heart. But the lesson it taught me will never be forgotten, and the avowal of it here may put many a student on his guard in similar cases. Since then I have made it a rule, in all cases of diarrhœa where there is any suspicion of kidney mischief, not to attempt to check the diarrhœa, except by food, until the other excretory actions are set agoing. Chronic skin affections of a gouty character are very common in chronic renal disease, and are curable only by measures which strike at the casual disturbance, namely, accumulation of nitrogenised waste in the blood.

This nitrogenised waste may take the form of either bile acids or uric solids, and either circulating in the blood gives rise to much disturbance. Very many of the maladies met in practice are not associated with lesions readily recognizable in the dead-house, and of these the troubles associated with excess of waste form a large proportion. For the

treatment of these maladies we use a class of agents called alteratives.

ALTERATIVES.

"These may, perhaps, neither stimulate nor depress, so far as can be perceived, any function of the body; their action may be silent and imperceptible, their mode of influence may be unknown, but their therapeutic effects are among the most assured of clinical facts." (H. C. Wood). So far experimentation has thrown little light upon these agents, but clinical experience is rich as to their utility. Mercury is a powerful alterative, especially useful when the retrograde changes in albuminoids are not going on satisfactorily. It seems to facilitate the oxidising processes requisite for their removal. Arsenic acts upon all the excretory organs, and is a powerful alterative of a tonic character, often most useful in cases of malnutrition with consolidation of one or other lung apex. The use of arsenic by the Styrians to give them good "wind" and a ruddy countenance is well known. Then iodide of potassium is a favorite alterative. "Donovan's solution," a combination of iodine, mercury, and arsenic, is a powerful alterative, not as much used as it might be. Then in many cases the alkalies are very useful in the removal of excrementitious nitrogenised material. The value of mercury as an alterative is vividly shown in the following case, very common in practice. A person has a foul-coated tongue, a bitter taste in the mouth, and general *malaise*, with more or less headache. Vegetable purgatives are taken until free purgation is induced. Yet the condition is little relieved, if at all. A mercurial pill is prescribed at bed-time,

It is, however, not till he gets "into practice" for himself and feels the pressure of the competition for an existence, when patients are something more than mere social units (as they are in a student's eyes in a hospital out-patient room), that the young medico is likely to take any interest in alteratives, or to appreciate their utility.

CHAPTER III.

BODY TEMPERATURES.

The temperature of the body in health is at or about 98·5° Fahr., and this is maintained alike in Arctic regions, and in hot countries where the surrounding temperature varies greatly. The student should have a clear idea of the production and dispersion of heat in the body, in order to wield his clinical thermometer skillfully, and to interpret correctly the information it furnishes.

The body heat is produced by the union of carbon and hydrogen with oxygen, in the viscera and the muscles; and, to a small extent, by the oxidation of albuminoids, chiefly in the liver. Heat is radiated from the body by the cutaneous, or heat-losing area; chiefly by the cooling effects of the evaporation of water, *i. e.*, by insensible perspiration. The more the blood is in the internal, or "heat-producing" area, the more body-heat is evolved; while increased vascularity in the skin increases the heat loss. In a cold temperature, the skin is cool and marbly, and devoid of sensible perspiration; in hot climates the perspiration is very profuse. Violent muscular exertion induces sensible perspiration, and thus increased heat production is accom-

panied by increased heat loss. Again, if a draught of iced fluid is swallowed, while the person is very warm, sensible perspiration is experienced almost immediately. The cold fluid contracts the blood-vessels of the internal area, the warm blood is driven to the surface, and then ensues perspiration, which of course increases heat loss; and so we feel more comfortable. If the student will bear in mind these physiological facts, he will more clearly comprehend—and this is, in practice, a very important matter—the difference betwixt a pyretic condition with a "dry" skin and one with a "wet" skin.

Let me try to make this quite plain to the youthful reader. When the skin is "wet," it is obvious that the heat loss must be great, and considerably above the normal. It is quite clear then that the heat production must be very great for pyrexia to be maintained with a wet skin. On the other hand, in ordinary pyrexia, as at the beginning of a common cold, or in the early stages of the exanthemata, and in typhoid fever, the skin is dry and imperspirable, and thus there is little heat loss by evaporation. Of course there is a certain heat loss from the hot vascular skin; but as the cooling effects of evaporation are the chief factors in heat dispersion, which is unequal to the heat production, the body heat accumulates and a state of "fever" is instituted. Now it is quite clear to the student, that his line of treatment in the first case, is not to attempt to increase "heat-dispersion," but to limit "heat-production." In the second case, increased "heat-dispersion" is essentially the matter to be aimed at. How then are these ends to be attained? I will try to tell.

Depressants, or remedial agents which lower activity in the body processes, are of two classes, (1) nerve depressants, and (2) vascular depressants. The agents which will depress nerve-activity will be considered further on (Action and Inaction).

VASCULAR DEPRESSANTS.

A vascular depressant is an agent which lowers the heart's activity, and this affects the production of body-heat, first by slowing the blood-current, lowering the blood-pressure in the arteries, and so limiting the oxidising processes in the lungs and elsewhere. Thus it strikes directly at heat-production. This would, however, not be very efficient if at the same time these agents did not act on the peripheral vessels. These agents also dilate the cutaneous vessels, and so increase heat loss; not only that, but they act upon the sudoriparous glands and induce perspiration, which had previously been arrested, and thus directly increase heat dispersion. These agents are antimony and aconite, *par excellence*. Chloral hydrate and opium (potent nerve-depressants) also lower heat production and increase heat dispersion. Now let us see how these agents can be made useful in the treatment of pyrexia. Say the student is called to a case of severe cold, with turgescence of the lining membrane of the respiratory tract. The skin is hot and dry; the patient is feverish and thirsty. He is drinking cold fluids, which, in being raised to the body temperature, neutralize so much heat. Here it is evident that heat dispersion is what is required. To restore the action of the sudoriparous glands will at once give relief. So it is well to give

Pulv. Opii., gr. i.
Pulv. Antimonial., gr. v.,

for an adult, at bed-time. This will probably provide a fair night's rest; then something of this kind may be prescribed:

Vin. Antimonial., ℥xx.
Liq. Am. Acetat, ʒi.
6tâ quâque horâ,

the first dose to be taken early in the morning. Some half-hour after it is taken, give the patient a draught of hot fluid, as milk, beef tea, weak tea or coffee, or cocoa. Perspiration is most easily and readily excited about 6 or 7 A. M., as a phthisical patient can tell you. Repeat this the next morning. The effect of this line of treatment is to make the skin moist, and so aid heat dispersion; to make the pulse soft, and so to lessen the vascular turgescence of the congested mucous lining of the air passages; and with this lowering of the turgescence, secretion is restored, and the mucous membrane is soothed thereby. There is less irritative cough, and the expectoration is easier. The cough set up by the irritation caused by the congestion and dryness was useless and exhausting. Now it is less, but it is accompanied by expectoration. This action may be facilitated by the inhalation of steam, or, still better, the fumes from a large sponge, wrung out of hot water, on which a tablespoonful of turpentine has been dashed. Or a large bucketful of water may be placed on the floor of the room, if the patient be a child—for children cannot readily be taught to inhale. So much for the treatment of a common cold.

[Hot bricks placed in water is a very convenient method of generating steam for the sick-room.]

If the patient is a child of twelve with measles coming on. Here again is a fast pulse, a dry skin, and rising fever. The tongue is furred, and it may be necessary to prescribe

Cal., gr. iii.
Pulv. Jalap, gr. vi.

at bed-time. But the main treatment would be to prescribe

Vin. Antimon.,
Vin. Ipecacuan., ā. ℥x.
Aq. Anethi, ʒ ij.
4tâ quâque horâ,

which would keep down the pyrexia pretty well. Or aconite may be used after the plan advocated by Sidney Ringer.

Tinct. Aconiti., ℥ i.

every hour. But perhaps it would be more convenient to prescribe

Tinct. Aconit, ℥ iv.
Vin. Ipecac., ℥ x.
Aq. Anethi, ʒ ii.
4tâ quâque horâ.

But the student must never forget that children bear depressants badly, *i. e.*, ordinary doses will at times produce alarming prostration; so he must be on his guard in this matter. On the other hand, children are tenacious of life.

Or a patient has typhoid fever. Thirty years ago he would have been dosed with antimony; fifty years ago he would have been bled; now most likely he is put in a cold wet sheet, or placed in a bath of water at 95° Fahr., and cooled down. The bleeding would affect the heat-producing processes by the abstraction of a number of the red blood-corpuscles—a very direct means of striking at the pyretic state. One of the best and most skilful general practitioners I know, practises in a country district with a hardy rural popu-

lation around him. He always carries his lancet-case with him, and in rising pyrexia from a local inflammation, usually commences his treatment by a moderate bleeding. His experience tells him that these persons bear bleeding well; and after this depletion, the medicines he prescribes act more efficiently than where no bleeding has been practised. The rational, intelligent use of the lancet must come in again. To return to the typhoid fever patient. He should be kept in bed in a well ventilated room; his stools should be carefully disinfected the moment they are passed, and at once removed from the sick chamber and buried; he should be fed on milk essentially; but if this curd too much, the milk had better be diluted with water, and some form of farina added, to prevent a firm curd forming in the stomach. When the milk curds too firmly, the white curd is seen in the pea-soup coloured stools. Such is the management of the case so far. Now, what should be given to the patient as medicine? If the case is a mild one, it is customary to let it alone and watch it, or perhaps give some mineral acid, as phosphoric or hydrochloric, well diluted with water.

Acid. Phosp. Dil., ℥xv.
Syr. Simplic., ʒi.
Aquæ, ʒii.
6tâ quâque horâ.

would be pleasant and refreshing to the patient, to say the least of it. But my own private opinion is that the acid to be used here is essentially the hydrobromic. There is a tendency to cerebral excitement and delirium at nights, which is aggravated by opiates. Bromine is a nerve sedative of a potent character, as the extensive use of the

bromides testifies. If I were directing the treatment of typhoid patients, the hydrobromic acid would be freely used. It is as pleasant an acid as any other, and is sedative to boot.

Ac. Hydrobromic., ℥xx.
Syr. Simplic., ʒi.
Aq. ʒj.

every four or six hours, would be the mixture employed

If the case be pyrexia associated with local inflammation, the student must look to two separate matters: (1) the position and extent of the local inflammation; and (2) the general disturbance of the patient. Patients of the phlegmatic order often show little general systemic disturbance, even with extensive inflammation. Those with a mobile temperament will manifest much general perturbation from a slight cause. It is well to appraise each factor carefully. In the nervous person it would be well to use chloral hydrate in small doses, often repeated.

Chloral Hydrat., gr. x.
Mist. Camphoræ, ʒi.
6tâ quâque horâ,

would probably produce satisfactory results. If the *pain* is great, as when a serous surface is inflamed, the analgesics are indicated as well as depressants. Say it is a case of pleurisy in a fairly strong man. Then

Tinct. Opii, ℥xx.
Vin. Antimon., ℥xv.
Mist. Camphor., ʒi.
6tâ quâque horâ,

is my favorite mixture. But here crops up the question of the local treatment, a matter we had not to deal with before. Here is the dry inflamed pleuræ rubbing on each other at every respiratory movement. This produces

the acute pain requiring the opiate. To relieve this some leeches may be used to deplete the costal pleura; or it might be well to attain the same end by a hot poultice. Here the dilation of the cutaneous twigs of the intercostal arteries depletes the pleural twigs and so furnishes relief. But there is another matter to be attended to, and that is—rest of the inflamed part. Putting a flannel binder round the chest, and so limiting the thoracic movement in the respiratory act, lessens the pleural friction which is the source of pain; the respiration being thus made almost entirely abdominal. A large poultice both depletes the costal pleura and limits movement; consequently it is always well in pleurisy to order one.

In *peritoneal inflammation* opium should be given freely and boldly. The more severe the pain, the larger and more frequent should be the dose of the opiate; while the belly should be covered by flannels wrung out of hot water and freely sprinkled with turpentine and laudanum. During acute pain of inflammatory origin, push opium freely; withdrawing it as the pain subsides.

We now come to the subject of *pyrexia with a "wet skin."* This is very commonly seen within a week or two of parturition; but is also seen under other circumstances. The body temperature is high, and the heat dispersion from the moist skin is considerably more than the normal heat loss in health; consequently there is a very great heat production. But it is useless to attempt to meet such pyrexia by any means of heat dispersion —unless it be that of external cold—so we must look to something else. Extensive experimentation on the Continent has demon-

strated the utility of quinine, and of digitalis, in lowering the body temperature in conditions of pyrexia. Quinine is believed to interfere with the oxydising processes and so to arrest pyrexia. Digitalis acts by contracting the peripheral arterioles which are dilated in pyrexia. (It is a law that the blood pressure in the arteries and the body temperature stand in an inverse proportion to each other. Digitalis increases the ventricular contractions, contracts the arterioles, and thus fills the arteries). We cannot regard the explanations so far attempted of the action of quinine or digitalis as quite satisfactory; but their value clinically is established beyond question. The following combination has done me yeoman service on numerous occasions.

℞ Quiniæ Sulph., gr. v.
Tinct. Digitalis,
Ac. Phosph. Dil., ãã ℥x.
Aq. ℥i.
4tâ quâque horâ.

It should be given at longer intervals as the pyrexia defervesces. Our knowledge of quinine and digitalis as anti-pyretics is in its infancy; while experience is too conflicting about salicylic acid for anyone to attempt to appraise its value as an anti-pyretic.

Low Temperatures.—In the treatment of low temperatures we can use heat, either applied externally, or, as hot fluids, taken internally. A hot poultice over the heart will always stimulate its action. If a low temperature is not the result of disease of the lungs or heart, it may be due to alcoholic intoxication, or to the effects of opium, chloral, aconite, or other toxic agent, which kills by bringing the circulation and the respiration to a standstill. The temperature falls as these vital actions are arrested; while the fall of

temperature further paralyses their enfeebled centres; and so life is extinguished. Medicinally the best agent to employ is belladonna, which increases body heat and excites both the circulation and the respiration. It should be given in the form of atropine, which is tasteless, the dose of which can be carefully measured. Belladonna has an unpleasant taste, and all galenical preparations of it are of uncertain strength. It may be given

Am. Carb., gr. iv.
Liq. Atropiæ Sulph., ℥ i.
Aq. Menthæ, ʒ i.
4tâ quâque horâ.

Such a combination I find most useful in cases of chronic bronchitis and emphysema, where there is a strong tendency to a low temperature. If the case were urgent, as in alcoholic poisoning, my own plan would be to inject subcutaneously thirty minims of the Liq. Atropiæ. On Feb. 14th, 1878, I had a grain of sulphate of atropia injected, at once, into the arm of a woman who was dying from opium poisoning, with the most satisfactory results. In the United States atropine is used for the treatment of collapse, with such results that this use of it is extending. Its use is indicated in the collapse due to burns.

CHAPTER IV.

INFLAMMATION.

Inflammation may be acute or chronic. As the first it is commonly seen as pneumonia, as inflammation of a serous or mucous membrane, or of the bones or rather periosteum. It occurs in the latter often in a subacute or chronic form. As chronic inflammation it is well seen in the valves of the heart, which are commonly the seat of chronic changes.

The student has been taught that inflammation is not merely vascular congestion—it is vascular congestion, and something more, viz., a production of cell growth, to speak broadly. Inflammation of a serous membrane is commonly followed by a fluid accumulation in the serous sac, which has to be dealt with in its turn. The pathology of inflammation must not detain us, however.

In inflammation of any area, large or small, the minute blood vessels of the affected area are dilated, while the nutrient arteries are full and dilated. (A patient of mine has eczema of the scalp; when the eczema is active his temporal artery can be seen pulsating distinctly.) This is accompanied in ordinary inflammations by a state of general high arterial tension; so that there is an abnormally large quantity of blood in the affected part. We can attack this condition of the vascular system by the measures mentioned in the preceding chapter. We know of no agents which will directly affect the inflamed part, but we can often afford direct relief. For instance in a phlegmon we can put on leeches; or in a whitlow abort the suppuration by an incision into the inflamed parts, without waiting for suppuration. But in glandular inflammations we try other measures than incision; for instance, in a bubo we put on a lead and opium lotion, and when all tenderness is gone, paint it with iodine to promote absorption. In the preceding chapter the treatment of pleurisy was described. The agents which lower blood pressure in the arteries and also promote perspiration (and consequent heat dispersion) allay pyrexia. But by lowering the blood pressure in the arteries generally we lessen the vascularity of the in-

flamed area, *i.e.*, less blood is driven into it in "sthenic" inflammation, the form now spoken of. If the patient has a full, rapid pulse and a high temperature, from a therapeutic point of view, these two matters are more important than the seat of the inflammatory action, or even its extent. To lower the blood pressure is to "starve" the vascular zone. Antimony, aconite, and other depressant agents have been used for this end; and it is not "bad practice" in the country to commence by letting a little blood, six to ten ounces, or so.

If the patient is in *acute pain*, analgesics must be administered. If the patient has a hot head, flushed eyes, sharp pulse, and rolls the head about in agony, you would diagnose meningitis and give

Pot. Brom.,
Chloral Hydrat., āā ℈i.
Mist. Camph., ℥i.
4tâ quâque horâ.

increasing or decreasing the dose according as the symptoms deepened or were relieved. Then you would put cold to the head, as pounded ice and salt, or cloths saturated with eau de Cologne, or vinegar and water. Instead of bleeding, you would probably find it more convenient to use a brisk cathartic, as

Elaterii, gr. 1-12.
Pulv. Scam. Co., ℈i.

Copious watery stools take a quantity of water from the blood, and so deplete an inflamed area. Opium is not good in inflammations within the cranium or thorax; but below the diaphragm, and in inflammations in the limbs, it is invaluable.

[In many cases hot applications to the head and back are much better than cold in cerebro-spinal meningitis.]

If it is a case of pneumonia, it may be well to prescribe

Vin. Antimonial., ℥xx.
Liq. Am. Acetat., ʒi.
6tâ quâque horâ.

To put on a large jacket poultice, and so to dilate the vessels of a large cutaneous area, is "to bleed the patient into his own vessels" pretty effectively; or aconite might be used. If, however, the patient be seen when the disease is far advanced, and the danger imminent, death must be averted if possible. The patient is pale, the respiration is very rapid, the pulse weak and thread-like—the patient, indeed, is dying with pulmonary engorgement and a right heart distended nearly to paralysis; and where the right heart is throbbing and palpitating in its attempts to carry on its work, then try to keep the heart and respiratory muscles at work, and combine direct stimulants to the respiratory centre, as ammonia, and strychnine, with a distinct stimulant to the cardiac centres, as digitalis:

Am. Carb., gr. v.
Tinct. Nuc. Vom.,
Tinct. Digitalis, ãã ℥x.
Aq. ʒi.
4tâ quâque horâ.

It would not alter the therapeutic line of attack whether the case was one of pneumonia, simple or tubercular, bronchitis, or capillary bronchitis; you really treat the disease through the patient. Your distinct business is to avert death. The above combination has done me great service many a time, and will do so for you too, if given at the right time and place. Never mind antiquated textbooks; when you have passed from the examination table to the bedside of your own patients, you will soon find that much

required for the first is of precious little service at the bedside; and further, the painful discovery will dawn upon you that what is required for everyday practice has almost entirely to be acquired after your educational course is ended.

When you have "*sthenic*" *inflammation* to deal with, the indications are (1) to relieve pain; (2) to lower the vascular activity, generally and locally; (3) to lower the temperature—these two are attained by the use of depressants; and (4) to keep the stomach and alimentary canal in good order. If unfortunately the stomach gets upset, you must instantly "change your front," to use a military expression. Never treat the stomach with disdain. Compromise with *it* you must. Other measures, no matter what they are, must be suspended, and the stomach treated when irritated.

Pot. Brom. ʒj.
Mist. Bism. Alk., ʒi.
6tâ quâque horâ,

may be tried if sickness supervene. If the stomach be acid, add to the milk taken a sufficiency of prepared chalk, or magnesia, to neutralize the acidity, and prevent the milk curdling too firmly. If the tongue is raw and denuded of epithelium, stick to this line with might and main—to the exclusion of all else, viz., to keep the stomach in good humor. If the tongue is foul, a calomel and colocynth pill at bed-time, and an ounce or so of black draught, will often do good. But whether you flog on the vital centres of respiration and circulation, or you attend to the stomach, of course turns on the exigencies of each case. You must use your own judgment in every case, or get some wiser head to

tell you. As long as life is not very seriously threatened, keep a steady eye on the condition of the tongue.

"*Asthenic*" *inflammation* is common among our city population: ill-bred, ill-fed, the blended products of drink, poverty, lust, and syphilis; reared on tea with a dash of alcohol; a race deteriorated in physique by inheritance and wrong rearing, our city-bred patients of the lower class almost never need depressants. They bear them badly. The quinine and digitalis mixture above is infinitely better for them. They need alcohol in liberal quantities; they are accustomed to it ordinarily, and need extra large doses in disease. They have very little "margin of health," and little or no physiological capital to fall back upon to enable them to resist the stroke of acute disease. You must feed them, and give tonics. The fluttering pulse and heightened respiration require

Am. Carb., gr. iv.
Inf. Cinchonæ, ℥i.
4tâ quâque horâ,

or they sink, or the combination with atropine is indicated at an early stage. If an inflammation in them does, at an early stage, present "sthenic" symptoms, they soon pass away, as a rule, and give place to "asthenic" symptoms. Depressants they will quickly sink under—a moderate dose of chloral if sleepless—and all call for further medical interference is abruptly ended. In others, especially persons of broken health and shattered constitutions, drunkards, or debauchers; or with constitutions sapped by overwork, syphilis, or struma, the same tendency to rapid failure of the vital powers is experienced. I can not and do not profess to put

an old head on young shoulders; but I can tell the student what he has to try to do. It will depend much on his own willingness to learn as well as his intelligence, how far he profits by what I write. Students are apt, at times, not to look straight at facts, but to quibble, to argue for argument's sake; to deliberately close their minds against the ingress of information, and then of course they are no longer teachable, but harden themselves in ignorant skepticism—a very bad mental attitude to adopt! After the brunt of the inflammatory action has been withstood successfully, and the acute symptoms are over, then comes the "wreckage of the storm" to be dealt with. If the tongue cleanse satisfactorily, then something of this kind is indicated:

℞ Quin. Sulph., gr. i.
Ac. Phosp. Dil. ℥ xv.
Inf. Gentian. ʒ i.
Ter in die;

or five drops of the *liquor strychniæ* may be substituted for the quinine. If there be a quantity of lung consolidation remaining, a thickened pleura, or peritoneum, a mercurial will often be of signal service. Inflammatory products, syphilitic growths, like the spare albuminoids (the *luxus consumptum* of the Germans) become so altered by the action of mercurials that they are readily got rid of. The fact we know; the explanation of it is shrouded in "the darkness that precedes the dawn." If there be pleuritic or pericardial effusion, a blister will often lessen the bulk of fluid and "promote absorption." Here, too, an occasional mercurial is often useful; but be careful to see that tonics and chalybeates are also administered to weak patients.

The lines laid down here for the treatment of inflammation apply to strictly surgical cases. The medical aspect of surgical cases requires more attention than is at present accorded to it. In osteitis and periosteitis, to allay pain, to lower vascularity, and to promote sleep, are often as important matters as the local surgical measures. Where a surgical measure has given systemic relief, little or no medical treatment may be required. But before this, or when the relief afforded is partial, medical measures may be of the greatest value; and it is not wise to overlook them.

Rest may be of the most essential service. In inflammation of a joint we recognize this, and secure rest. We strap a thorax in pleurisy when a broken rib is rubbing the pleura into inflammation; or when a tubercle protrudes from the lung and produces the same result. But in the treatment of endocarditis this has been utterly forgotten. Yet when an inflammatory storm is passing over the valve-curtains of the heart, lighting up a growth of connective tissue corpuscles in the fibrous structures beneath, we forget the lessons of pathology. The greater the strain upon the valve-curtains, the greater will be the growth of these corpuscles, whose ultimate contraction will distort and mutilate the valves. Keep the patient flat on the back for days after the active symptoms have passed away; what is a week in bed to a crippled existence with a leaking or stenosed mitral valve? Calm the circulation, and the nervous irritability and desire to be getting up, with chloral if necessary. To use measures to give tone to the circulation, to throw more strain on those valve-curtains by getting

the patients up, is unreasoning, mischievous energy. It is enough to make one despair of the reasoning power of the species to think of the treatment of rheumatic fever with endocardial complications, after the acute symptoms are over. The lessons of pathology so carefully conned in the dead-house are forgotten at the bed-side; and the light they should project to guide our steps in practice is curiously wanting or neglected.

PARENCHYMATOUS INFLAMMATION. — Still more necessary is it to remember the lessons taught by pathology in those chronic modifications of nutrition now called parenchymatous inflammations. 'Habitual use or overstimulation of a part, by producing determination of the blood to it, may readily drive it into inflammation,' writes Erichsen. The knowledge of this fact teaches us to lessen that demand upon the part which is driving it to inflammatory changes, and so avert the danger. This is often more efficient than medical treatment. 'The whole origin and course of the parenchymatous inflammation must be subjected to a birdseye view, and then each part of the whole seen in its true relation to the rest. At the same time each part should have special attention given to it and its needs. If it be interstitial pneumonia in a mason working on fine stone, he must leave his occupation and flee for his life. As a police officer, a soldier, or an emigrant, he may live; but if he remain a 'fine-hewing' mason, he will surely die; and that before long too. If the striker or boatman on the first evidences of aortic valvulitis quit his occupation and take to some lighter form of labor, he may live to a fair length of days. But if he adhere to what has produced

disease in healthy organs, the morbid processes will be aggravated and the end accelerated. If the gin-drinker reform, his injured liver may last for years. If the gouty man reduce his consumption of nitrogen to what his kidneys, aided by his skin, can fairly eliminate, length of days may not be absolutely out of question; but such prolongation of life is incompatible with self-indulgence. Aortic valvulitis is common in hammermen or strikers, boatmen, and others who make sustained severe efforts, and thus throw strain upon the aortic valves; indeed, it is not a very rare thing to find an aortic cusp actually ruptured by severe effort. It also occurs in gouty conditions with an hypertrophied left ventricle and a tense incompressible pulse; where the aortic valves are closed violently by the high blood pressure in the elastic arteries. The dust of fine-hewing irritates the lungs, as does flour in millers and bakers, fine dust in dry grinding, as needle grinding; and in other occupations where mechanical irritants are inhaled. Alcohol worries the liver into cirrhosis. Too much nitrogenised material excites a growth of connective tissue in the kidneys — 'the gouty kidney.' In all these cases our knowledge of 'the natural history of the disease' should guide us as to prevention, and the avoidance of the provoking cause of mischief.

In those chronic modifications of nutrition in the joints found in the strumous, rest is all important. The thick epiphyses of struma are easily provoked by slight external causes to take on changes of nutrition and growth. Instead of a moderate production of healthy cells, imperfect cells are produced in abnormal quantities; there is an increase of

quantity with a decrease of quality: until this may reach the production of pus or suppuration. To rest the part is as important as to improve the nutrition; while 'diseased tissues need the baptism of healthy blood for regeneration,' they also equally need rest for repair. If a knee, it should be put at rest with a leather case well fitted on, so as to abolish movement. If the hip joint is the seat of disease, take off the weight of the body by an appropriate splint; or if the patient is in bed, keep the head of the femur and the cup of the pelvis apart if possible, as pressure will lead to ulceration. If the spine is weak, take off the weight of the head and shoulders from the spine, by an external skeleton resting on the iliac crests and supporting the head and shoulders. Relieved from the superincumbent weight, repair is favoured in the spinal column; which, when handicapped by that burden, must have got worse. What the surgical measures, Sayre's jacket, or what should be, it is scarcely my province to say; I merely point out here the principle which must guide your practice —show how your practice can be rational. Under favouring circumstances the natural efforts at repair are often very successful.

CHAPTER V.

ANÆMIA.

It is usually easy enough to see that a patient is anæmic; but it is not so easy always to determine on what that anæmia depends. It may be due to want of food, or to imperfect assimilation. It may arise from a drain, as diarrhœa or lucorrhœa; or it may arise from gonorrhœa, when it is due to chagrin and

discomfort telling on the digestive organs, rather than the mere loss by the discharge. Or constipation may occasion it. In woman, especially, a drain is no uncommon cause of anæmia. In such case it is well to prescribe:

Mag. Sulph., ʒ ss.
Tinct. Fer. Mur., ♏ x.
Tinct. Capsici, ♏ iv.
Inf. Quassiæ, ℥ i.
Ter in die.

In elderly persons, and in women at the change of life, warm carminatives in their mixtures are always indicated; and they are always comfortable to any one taking a purgative. I believe this has been said before, but it will stand repetition. When due to, or associated with a drain, stop the drain by appropriate measures.

In *simple anæmia*, as seen in girls at puberty, any form of iron is useful. If very anæmic, send them to bed for a week or two. Especially is this necessary when the patient is an overworked servant-girl. I well remember a girl at the West London Hospital who was under my care for fourteen months, and in spite of every combination of iron and tonics, she stood still. She was sent into the hospital and put to bed, and under an ordinary steel mixture, in a week, most distinct and perceptible improvement was made; and in a week or two more she was all right. I have not forgotten that lesson; and I hope the reader will not.

In childhood it is well to give lime as well as iron; and Parrish's chemical food is a very pleasant form of this combination. Often in strumous children cod-liver oil works wonders. Then there are special circumstances which affect the anæmia, and require special and appropriate measures. In the anæmia so

often found with consolidation of the apices of the lungs, it is useless to give iron, as an hæmatic, if at the same time the night sweats are allowed to go on unchecked.

In malarial poisoning and the subsequent anæmia often seen, it is useless to give iron, unless at the same time the specific—quinine—be given with it. If there be congestion of the liver, with tenderness over it and a foul tongue, it is utterly useless to give iron. Clear out the liver and get the tongue clean, and then chalybeates will do well:

Quin. Sulph. gr. ij.
Tinct. Fer. Mur.,
Ac. Phosph. Dil., āā ℥x.
Aq., ʒi
Ter in die;

but if this be not done, it is waste of time to give iron.

If there is toxic anæmia, as in lead-poisoning, it is desirable to get the lead out of the system by the iodide of potassium, as well as to order steel. In mercurial, or copper poisoning, it is necessary to prevent more of the poison entering the system; and to let what is in get out, as well as give chalybeates.

In gouty patients suffering from anæmia, while there are active symptoms, iron is of no service, unless it be given along with potash:

Pot. Bicarb., gr. x.
Ferri. Amm. Cit., gr. v.
Inf. Quassiæ, ʒi.
Ter in die;

well diluted with water, is a capital combination. Usually it is well to let the active symptoms subside before resorting to iron. It would indeed be well to commence with

Sod. Sulphat,
Sod. Pot. Tart., āā ʒi.
Tinct. Nuc. Vom., ℥ x.
Inf. Gentian, ʒi.
Ter in die,

until the tongue is clean and all active symptoms are removed; then follow with the potash and iron. After rheumatic fever this combination is indicated for a while.

In *anæmia of syphilitic origin*, a very wide class, I am sorry to say, it is necessary to give mercury freely. I hold with H. C. Wood in favor of mercury *versus* large doses of iodide of potassium. At present the iodide is given in very large doses, ʒss. to ʒi. Sometimes in syphilitic ulceration the iodide is to be preferred to the mercurial alone. But it is well to combine the two:

Liq. Hyd. Bichlor., ʒ ss.
Potas. Iodidi, gr. v.
Inf. Gen., ʒ i.
Ter in die.

is a useful form. But in the ordinary cases of anæmia, which is sometimes very acutely induced at an early period, it is well to prescribe the following combination:

Liq. Hyd. Bichlor., ʒ ss.
Tinct. Fer. Mur., ♏ x.
Inf. Quassiæ, ʒ i.
Ter in die.

By giving iron with the mercury, full doses of the latter may be given to broken-down subjects without fear. My own individual experience has been that while I use mercury very freely in syphilis, no case of salivation or other mercurial trouble has occurred since iron has been systematically given with the mercury. In the anæmia of syphilis, whether it be acquired or inherited it matters not, always stick to the last combination; whatever local measures may be indicated. When the treatment has to be continued some time, it is well to give the two in pill form, which is tasteless and does not spoil the teeth.

Hyd. Bichlor., gr. v.
Fer. Sulph. Exsic., ʒ i.
Pulv. Pip. Nig., ʒ ij.
Pil. Al. et Myrrh., q. s. ft.
In pil. 60 div.
1. bis in die.

Then it may be well to rub in a piece of blue ointment, the size of a large pea, every night, either into the inside of the limbs, or over the rash; if rash there be. Also feed up the patient.

Continue the treatment so long as any evidence of syphilis remains; and a little longer. Hound the poison out of the system thoroughly and effectively; and perhaps the patient will never know more of it. When after the lapse of years a patient manifests syphilis in its later form, 'go for' the poison again energetically. Syphilis, like gout and malaria, often shows itself actively after lengthened periods of quiescence; and like them requires active treatment at those times. In inherited syphilis, it is well to give Hyd. c. Creta, in two or three grain doses every night, when there is a copper-hued bottom, or the distinctive spots or 'snuffles.' This clears out acid masses of mucus in the alimentary canal. If there are sores, they should be washed, and then dusted with calomel. The treatment should be continued a month after apparent complete restoration to health. Relapses occur in children as in adults, and must be actively treated. As a chalybeate to meet the general condition of anæmia or malnutrition in the quiescent intervals, the syrup of the iodide from ♏ xx to ♏ xl three times a day is indicated.

Then there is a form of anæmia and malnutrition in infants and children from excessive appetite, or 'bulimia.' It is commonly seen after whooping-cough and measles. Here there is chronic inflammation of the mucous

membrane of the alimentary canal, and sensations of hunger are intensified. The child eats incessantly; and the more it eats the more it wastes. It digests very little of the large amount it eats; it grows hungrier and hungrier, of course; and if the mother cannot, or will not restrain it to light meals of easily digested food, with proper intervals of rest for the stomach, the child will die. It may be well to prescribe:

Pot. Brom., gr. ij.
Aq. Anethi, ʒ i.
Ter in die.

to soothe the mucous membrane and diminish the sensations of hunger.

PLETHORA.

Is the opposite condition to anæmia — where there is too much blood in the system. Here it is well for the student to determine whether there is 'true plethora,' with a full artery as well as a full vein; or venous congestion with a slack artery. If the latter,

Tinct. Digitalis, ♏ x.
Inf. Cinchonæ, ʒ i.
Ter in die.

may be given as well as the Pil. Cal. Col. Co. at bed-time twice a week, and the saline draught in the morning. In the true plethora, with a tight pulse and often a throbbing head, it may be well to give

Elaterii, gr. 1-16.
Pulv. Jalap Co., ʒ ss.

at once, and follow with the mixture of nux vomica, three times a day. In cases of amenorrhœa in florid women, with plethora, it is well to use this mixture freely, and to order hip-baths when the menstrual period ought to be present, and the patient feels as if it were coming on. A regulated dietary

poor in albuminoids is necessary where a tendency to plethora of fulness of blood exists, no matter at what period of life or in which sex.

CHAPTER VI.

BLOOD POISONS.

THE student will often be brought face to face with conditions of blood-poisoning. This may be acute, from some poison absorbed from without the body; or more chronic from pus absorption within the body; or other matter, as in pyæmia. The treatment of blood poisoning is not very satisfactory. If it takes the form of diphtheria, with the throat patches; the line to adopt is to support the system by beef-tea and milk, giving wine when matters are critical, and the following combination:

Pot. Chlorat. gr. iij.
Tinct. Fer. Mur., ℥jv.
Syr. Aurant, ʒss.
Aq. ad., ʒii.
6tâ quâque horâ,

for a child of seven or eight; for an adult twice this dose, at four hours' interval. If there are accumulations of pus in the intermuscular planes let it out freely; and it is well to do this antiseptically. For the treatment of blood poisoning we resort to

ANTISEPTICS.

These are agents which unite with organic matter in a state of molecular change, and in uniting therewith make insoluble and therefore inert compounds. Just as in lead-poisoning sulphuric acid well diluted is given, to form the inert sulphate of lead, so in blood poisoning the sulphites are given to unite with and render inert the acting poison.

Sod. Sulphit., ℈i.
Pot. Chlorat., gr. ii.
Aq. Menth. Pip. ʒi.
4tâ quâque horâ.

is good. Carbolic acid in atomized spray is often useful for the patient to inhale. Or salicylic acid may be tried, as a salicylate of soda, ʒss. to ʒi. quater in die. Some of these agent, as Condy's fluid and chlorate of potash, both rich in oxygen, are supposed to act by furthering the oxidising processes, and so rendering the poison inert. Condy's fluid should be sprinkled about the bedroom; while a sheet kept moist with a solution of it, or chloride of lime, should be hung over the door of the room. As a prophylactic to be taken by the attendants, the following is good, and not unpalatable. Take an oz. of chlorate of potash, put it in a quart bottle of wine with the juice of two good-sized lemons; shake the whole till dissolved; then take a wineglassful three times a day. This is very good when there is scarlatina in the house; or for those in attendance upon patients suffering from acute blood-poisoning.

The treatment of the more persisting pyæmiæ cannot be discussed here; but the line is to give the sulphite mixture regularly, and to keep up the patient's strength by good, digestible food, wine, and other stimulants; and thus enable him, if possible, to weather the storm.

Malarial-poisoning takes the form of fever and ague, or dysentery. In fever and ague recurring in a person who has been subject to it, it is well to give

Quin. Sulph., gr. iv.
Tinct. Digital., ♏ x.
Ac. Phosph. Dil., ♏ xv.
Aq., ʒi.
Ter in die.

with a Pil. Cal. Col. Co., at night, and mercurial tonic in the morning. The poison lying chiefly in the portal circulation, evacuants are indicated; as well as the malarial specific, quinine.

In malarial dysentery, not the putrescent dysentery of camps, it is well to give ipecacuan in full doses. Say you give ℥ xv of laudanum to a patient, and in two hours, when the stomach is under the influence of the narcotic,

Pulv. Ipecacuan., ʒ ss.

The patient for a few hours will be deadly sick, then vomit, and next day there is a normal stool containing bile, and the dysentery is relieved. If not thoroughly successful in the first attack, repeat the manœuvre.

In the general management of specific fevers there are points to be attended to in all cases; special points in particular maladies. Firstly, remember that the infectious power is at the decline of the malady; in scarlatina so long as there is an effete epidermal scale to be shed; in small-pox so long as there is a scab to fall. In measles we do not exactly know the peculiar infecting agent—possibly a mucous epithelial scale; but this is pure hypothesis. In *typhoid fever* the stools should be passed into a utensil containing a disinfectant, as chloride of lime or carbolized powder: some more of the disinfectant should be thrown over the motion as quickly as possible, which should then be buried some distance from the house, or in towns otherwise disposed of. These measures should be adopted for the protection of others. Now for the patient.

We will suppose the case to be *scarlatina*.

Having made his diagnosis, he will put the patient into a good airy bedroom, and allow plenty of fresh air. With the rising temperature and the burning skin there is little fear of catching cold. But when the fever has defervesced, the skin is cool, and the epidermis is peeling, chills are readily caught with the thin sensitive skin; then be very careful about cold. If the case is one of ordinary severity, give

Pot. Chlorat., gr. x.
Syr. Aurant., ʒi.
Aq. an. ʒss.
6tâ quâque horâ.

If the throat is ulcerating, add Tinct. Fer. Mur., ɱlx., to each dose, and give wine and beef-tea. Otherwise milk, milk and lime-water, or seltzer-water, should be the staple food. Cold sponging with vinegar and water may be practiced so long as there is distinct fever. When the fever is over, rub the patient over daily with carbolized oil, one part of carbolic acid to forty of linseed oil, or cocoa butter. The patient should be washed daily, and then rubbed over with this carbolized oil. By this means the falling scales are disinfected and removed. Be very careful against cold for a month after the appearance of the rash: very careful indeed. If the urine become albuminous, put the patient in flannels; sweat him, or her, in a warm bath; then purge with

Elaterii, gr. $\frac{1}{10}$.
Pulv. Scam. Co., gr. iij.,

for a seven year old child; and don't be afraid that this will kill a strong child. Give milk and potash water, and

Pot. Bicarb.,
Fer. Amm. Cit., āā gr. v.
Aq., ʒss.
Ter in die.

Any chalybeate tonic may be adopted in the convalescence.

In *measles*, remember the lung complications, and be on your guard against cold; in this, the early treatment differs from that of scarlatina. Put the children in a large room, and take care of draughts. If the mother has given some saffron tea "To strike out the rash," don't snub her or condemn it; to do so would only be to let yourself down in her opinion, instead of convincing her: it is a time-honored remedy. Then give each child

Vini Ipecacuan., ℥ v.
Syr. Zingiber., vel
Syr. Tolutan., ʒ ss.
Liq. Amm. Acet., ʒ i.
4tâ quâque horâ,

dieting as in scarlatina. With care the children should get through all right. If the lung symptoms are threatening, an emetic of sulphate of zinc (℈ ss. in ℥ ii. of warm water) is indicated; and a grain of carbonate of ammonia to each dose of the above mixture. When convalescing, it might be well to give

Sal. Volatile, grs. x.
Inf. Cinchon. Flavæ, ʒ ii.
Ter in die.

When called to a case of *smallpox*, get the patient away if possible. If this cannot be done, give something like this:

Ac. Phosph. Dil., ℥ xv.
Syr. Zingib. ʒ i.
Aq. ad, ℥ i.
4tâ quâque horâ.

Darken the room to check the development of vesicles on the face, and feed the patient. Patients will become severely ill with smallpox, and yet often recover. If prostration is setting in, I should feel inclined to try

Am. Carb., gr. iv.
Pot. Chlorat., ℈ ss.
Inf. Cinchon., ℥ i.
4tâ quâque horâ.

The patient must be encouraged not to scratch the face, or pick the irritating scabs from the nose, else severe pitting will follow. A mixture of olive oil and calamine, in proportions enough to make a thin paste, is recommended to be painted over the face daily, to reduce the risk of pitting.

In *whooping-cough* it is well to give atropine.

℞ Liq. Atrop. Sulph., ♏ i.
Aq. Anethi., ʒ i.
6tâ quâque horâ.

If the respiration be excited,

℞ Pot. Brom., gr. v.
Syr. Tolut., ʒ ss.
Aq. ʒ iss.
4tâ quâque horâ.

may give better results. But study the character of the respirations; if shallow and rapid, atropine is indicated. Children stand belladonna well. If the child vomits with its cough, then feed it milk, or milk-gruel, immediately after it vomits; so that the food may be digested and get out of the stomach before the next paroxysm. After the true whooping-cough is gone, a troublesome cough of like character may remain,- a resultant 'trick' of the respiratory centres. Here it is well to prescribe:

℞ Quin. Sulph., gr. i.
Ac. Hydrobrom., ♏ xv.
Aq., ʒ ii.
Ter in die.

which often is very successful. After that any chalybeate, as

℞ Vin. Fer.
Ol. Morrh., aa ʒ i.
Ter in die,

or half a drachm of Parrish's food thrice daily.

Influenza is a depressant form of catarrh; more depressant than is generally credited. For it, give

Am. Carb., gr. iv.
Sp. Chloroform., ♏ xx.
Inf. Cinchon., ʒi.
Ter in in die.

and, if necessary, a pill at bedtime.

A good pill in *catarrh, chronic bronchitis*, etc., for nights of broken rest from cough, is

Pulv. Ipecacuan., gr. ss.
Pulv. Opii., gr. i.
Pil. Scillæ. Co., gr. ii.
o. n.

Where there is much embarrassment of the respiration, then

Liq. Morph. Mur., ♏ xxx.
Liq. Atropiæ Sulph., ♏ iii.
Aq. Menth. Pip., ʒ ss.
o.n.,

is to be preferred. Any dimness of vision, or dryness of the throat from the belladonna, is quite unimportant; any action on the pupil no reasoning person would heed; for of what significance is it? It is one of the medical 'bogeys,' that's all. If the patient is incommoded by the dimness of vision, as a needlewoman or an engraver, then it must be withdrawn; or if the throat be disagreeably dry, the belladonna may be discontinued.

Erysipelas appears in two forms, as a spreading dermatitis resulting from an injury, and as a specific disease in the face and head. As a mere dermatitis

Plumbi Acetat., ℈ss.
Tinct. Opii., ʒss.
Aq., ʒxx.

is good, applied on lint covered with oilskin; and to regulate the bowels, if the tongue be furred, by the means often spoken of in Chapter V., and to treat the patient according to the general condition, and the temperature according to the rules laid down in Chapters III. and IV. In true infectious erysipelas, it is well to give

Quin. Sulph., gr. i.
Tinct. Fer. Mur., ℥ xv.
Aq. ʒ i.
6tâ quâque horâ,

to use the lead and opium lotion warm, or to dredge the face well with flour ; this last is very desirable when there is much exudation, as this fluid possesses a high infecting power.

[A solution of hyposulphite of soda and tr. iodine and glycerin are useful local applications for erysipelas.]

In the treatment of the pyrexia associated with blood-poisoning proper, not specific poisons, it is well to adopt the measure advocated for "wet-skinned" fevers, spoken of in Chapter III.

CHAPTER VII.

GROWTH AND DECAY.

It is well for the student to remember that the anatomical basis of our divisions of maladies is a convenient arrangement for text-books, but is not so well adapted for the bedside. Physiology must guide our practice very much more than it has done, or was able to do in past times. A fair knowledge of anatomy has long been obtained, but such an acquaintance with physiology as is of any value in practice as a light and a guide, is as yet only possessed by comparatively few. Yet it must be the basis of treatment, just as anatomy is the basis of diagnosis.

An infant is often disturbed in its digestion, has a swollen belly, with loose stools and much colic, evidenced by long cries. Here it may be well to see the mother, or nurse. If she have leucorrhœa and cold feet, with con-

stipation, put her right, and then the child will improve. Give her

Sod. Sulphat., ʒi.
Pot. Bicarb., grs. x.
Tinct. Zingib., ℥ xx.
Inf. Cascarillæ, ʒi.
Ter in die.

and instruct her about using injections for her leucorrhœa. If the child be weaned, see to its having the milk of one cow, or the Swiss preserved milk—a great advantage to town children. If the child is still griped, or if it still throw up its milk firmly curdled, give it

Potash. Bicarb., grs. ii.
Ol. Cajeput., ℥ i.
Syr. Zingib., ℥ xv.
Aq. Anethi, ʒi.
6tâ quâque horâ.

If hand-fed, a little prepared chalk or magnesia powder in its milk is indicated.

[Cows to afford wholesome milk for infants should be healthy, and have good food and care. Overheating by driving, and unwholesome food and drink—distillery feed—will induce unwholesome milk.]

Teething often gives trouble, and then it is well to see to the gums, and lance them when a tooth is protruding, and the point is hot and tense. *Cut the point, or points only; don't draw a lancet along the whole gum,* and so leave a cicatrix to divert the teeth, that are yet to come, from the straight line. When there is much irritation produced by the teething, you may prescribe

Pot. Brom., grs. v.
Aq. Anethi, ʒi.
Quater in die.

If there be any heat of head and constipation, add Tinct. Sennæ, ℥ xx., till the bowels are well opened.

When there is *hydrocephalus* suspected, or present, give this

Pot. Brom. grs. iij.
Pot. Iod., grs. j.
Aq. Anethi, ʒ i.
6tâ quâque horâ.

The plan of blistering the head with croton oil liniment has still its advocates; but it is not now fashionable.

Then there is *infantile remittent fever*, with its diurnal variations of temperature, common in children. Open the bowels with

Pulv. Scam. Co., grs. vi.,

for a seven-year-old child, first thing. Then give it.

Quin. Sulph., gr. ½.
Ac. Phosp. Dil., ♏ v.
Aq. Anethi, ʒ ii.
Ter in die.

Remember that of all the acute maladies of children, *indigestion stands first* in the rapidity with which the symptoms develop; and the temperature rises. Give an emetic,

Cal., grs. iv.
Pulv. Ipecacuan, grs. x.,

and get the offending mass off the stomach at once. After this the temperature usually falls, especially when the calomel acts on the bowels. If a delicate child, it may be well to give the ipecacuanha without the calomel, and after the child has been sick, to give it a dose of castor-oil, say ʒ ss. When there are frequent attacks of indigestion, give strict injunctions regarding its dietary—milk, simple milk puddings, or a little soup or fish; little meat or pastry; but stewed fruit and cream *ad libitum*. Then give it

Sod. Bicarb., grs. iii.
Bism. Trisnit., grs. v.
Mist. Acaciæ, ʒ x,
Inf. Calumb., ʒ ii.
Ter in die,

before its meals.

Very often you will get a *distinctly strumous child* to deal with. Diet it as above, and give after food

Vin. Fer.
Ol. Morrh., āā ʒi.
Ter in die,

and you will usually be gratified by seeing that the child improves very decidedly. Send it to the sea-side, and when the stomach has been put right by the bismuth mixture, give it the oil and steel wine, and plenty of butter on its bread.

Then be watchful as to the subject of growth. Children grow by fits and starts. When acutely growing they are not idle but languid; and cannot 'do their lessons.' Put them to bed and give them

Quin. Sulph., gr. ss.
Ac. Phosph. Dil., ɱ v.
Aq. ʒii.
Ter in die,

and let them have plenty of milk. In consequence of the growth of the epiphyses, pain in the joints is often experienced and attributed to rheumatism.

If *rheumatic*, a mixture of potassium bicarbonate and the ammonium citrate of iron is indicated.

Chorea is common in children. When it is the result of fright it is apt to be very intractable. When the result of seat-worms give

Pulv. Scam. Co., grs. iv.,

to be repeated till the worms are all expelled. Then give

Pot. Brom., grs. v.
Fer. Pot. Tart., grs. iv.
Aq. ʒii.
Ter in die.

At other times, when the chorea is evidently due to a 'growing fit,' where the spinal cord

is tardy or lingering in its consequential growth,

Liq. Arsenic. Hydrochlor., iii.
Tinct. Fer. Mur., ℥ v.
Aq. Menth. Pip., ʒ ii.
Ter in die,

will often do good service. If the child is very ill keep it in bed.

When a child is badly nourished, and you have put its bowels in order, given it steel wine and cod-liver oil, and yet it does not thrive, it may be well to rub it daily with olive oil or neat's foot oil—cod-liver oil smells too unpleasantly. Let the mother first wash it with soap and water to clean away the epidermal cells and oil of the previous inunction and 'cleanse the pores of the skin,' and then rub the infant's body well before the fire, with half an ounce of oil. This will often produce results at once surprising and satisfactory.

Incontinence of urine in children is a common malady. It arises usually from hyperæsthesia of the vesical centres in the lumbar portion of the cord, so that in sleep any irritation in the pelvis, as ascarides in the rectum, is apt to cause these centres to relax the vesical sphincter—misinterpreting the irritation for the call of a full bladder. First remove any local irritation, seat-worms, a long prepuce, etc., and then give

Liq. Atropiæ Sulph., ℥ ii.
Aq. Anethi, ʒ i.
Ter in die.

[The Liq. Atropiæ of the British Pharmacopœia is of the strength of *four* grains of Atropiæ Sulph. to ʒ j Rect. Sp. and ʒ vij of water.]

Children, like rabbits, stand belladonna well; do not be afraid of poisoning them with any reasonable dose of atropia. Also bear in

mind that the irritability of the bladder so common in old men, where their rest is broken by having to get up several times to make water, is greatly relieved by belladonna.

℞ Liq. Atrop. Sulph., ♏ i.
Inf. Buchu, vel
Mist. Camph., ʒ i.
Ter in die,

will often give decided relief,

In the treatment of children avoid two extremes in the use of calomel; do not look upon it as a panacea always to be given, nor go to the other extreme of never giving it. In troubles in which the liver is involved, an occasional dose of calomel is excellent at any period of life, save for persons with cirrhosed or contracted kidneys—in other words, the subjects of Bright's disease, who are very susceptible to mercury, as they also are to opium. With these persons both these agents are simply 'poisons.'

OLD AGE.

When approaching old age is beginning to lay his grip upon the organism, and the changes known as 'senile' are inaugurated, our practice must be modified. As age progresses, the utility and tolerance of iron diminishes.

In *conditions of debility* in young persons a chalybeate tonic is almost universally indicated, but with elderly persons something of this kind is to be preferred as a pleasant tonic:

℞ Amm. Carb., grs. iv.
Sp. Chloroformi, ♏ xx.
Tinct. Nuc. Vom., ♏ x.
Inf. Cascarillæ, ʒ i.
Ter in die,

or:

℞ Sal Volatile, ʒ j.
Sp. Chloroformi, ♏ xx.
Inf. Cinchon. Flavæ, ℥ i.
Ter in die,

All laxatives must be well charged with carminatives Such a pill as :

Strychniæ, gr. $\frac{1}{30}$
Pulv. Pip. Nig., gr. ss.
Pil. Col. Co., grs. iiss.

every second or third night, is indicated in constipation. For the morning laxative the following are useful :

Haust. Nig., ʒi.,

in an ounce of hot water, or Hunyadi Janos a sufficiency, with a teaspoonful of tincture ginger, and some hot water. Ordinary purgatives, as effervescing salines, are apt to lie too cold on the stomach for elderly persons.

If their assimilative organs become impaired, the dietary of childhood is desirable. Mentally and bodily, we find the proverb 'once a man and twice a child' holds good. Milk puddings, stewed fruit and milk, or cream, bread, butter, and jam, or honey; fish, poultry, game; little kickshaws rather than solid meat, should form the bulk of the dietary. Remember that whether bile acids or lithates, the troubles of advanced life are intimately linked with the presence of nitrogenized waste in the blood.

Elderly persons soon lose heat, and should be well clad, especially whenever the weather is cold. This is very true of those who suffer from bronchitis or emphysema. In cold weather keep them warm. Give them 'treacle posset' to go to bed with, if up. A warmed bed, a draught of hot fluid with alcohol, are required for 'the chill blood of age. Where they are teetotallers, 'treacle posset,' or a cupful of hot beef-tea, may be given instead of the alcoholized draught. When either extreme of life is attacked by bronchitis, keep up the system—feed.

As a cough mixture for old persons with chronic bronchitis the following is indicated :

Am. Carb., grs. v.
Sp. Chloroformi, ♏ xx.
Tinct. Nuc. Vom. ♏ vi.
Inf. Senegæ, ʒi.
6tâ quâque horâ,

to which may be added ten drops of tincture of digitalis if the pulse falters, indicating embarrassment of the right side of the heart.

CHAPTER VIII.

RHEUMATISM, GOUT, AND DIABETES.

In acute rheumatism put the patients to bed in a flannel shirt, and in blankets ; nothing but woollen clothes near them. Enjoin absolute rest for the sake of the cardiac valves for several days after all active symptoms have disappeared. Use a hot bran bag or a poultice for pain within the pericardium, and hot solutions of bicarbonate of soda, (ʒi to ʒii, with laudanum half an ounce) on flannel wrapped round the swollen painful joints. Internally :

Pot. Bicarb., ʒj.
Tinct. Opii., ♏ xv.
Inf. Serpentariæ, vel
Inf. Buchu, ʒi.
6tâ quâque horâ,

with a copious draught of water is good; the opium being increased or decreased according to the pain—mind this. Others prefer:

Sodæ Salicylat., ℈i.
Mist. Camph. ʒi ;

but the first always served me well. At night:

Pulv. Opii., grs. ii.
Pulv. Aloe Co., grs. iii. ;

or :

Pulv. Opii., grs. ii.
Plummer's Pil., grs. ii.

may be given with advantage. Do not disturb the patient too much by giving purgatives; but if necessary, give a purgative water, a dose of Carlsbad salts, or a Seidlitz powder. When the active symptoms subside:

Pot. Bicarb., grs. x.
Fer. Am. Cit., grs. v.
Inf. Quassiæ, ʒi.
Ter in die,

well diluted with water, slides the treatment from alkaline to chalybeate very agreeably. If a strumous young person, give cod-liver oil as soon as possible; and get the patient to the seaside as soon as the weather and the condition will permit.

In *chronic rheumatism* it is well to prescribe:

Pot. Iod., grs. iii.
Pot. Bicarb., ℈ ss.
Inf. Serpentariæ, vel
Inf. Sarsæ., ʒi.
Ter in die,

with Pil. Cal. Col. Co., grs. v., once or twice a week at bedtime. Then order a liniment, either Lin. Terebinth. or Lin. Camphoræ, to be rubbed well over the painful part night and morning. When there is *sciatica*, give the above, and for a local application:

Lin. Aconit., ʒii.
Pulv. Opii, ℈i.
Sacch. Fœcis., ʒii.

spread on a V-shaped piece of lint, laid over the course of the nerve, with the point downwards; covered with a similar piece of oil silk about half an inch larger, and secured by a long stocking, with the foot cut off, drawn over all. Don't change the piece of lint each day when the new dose of analgesic has to be applied.

Gout is a troublesome malady to treat. First let us take an acute attack with very painful

joints. The Cal. and Col. Pil. with the Sod. Sulph. and Pot. Tart. mixture may be given every second night and morning; then,

℞ Pot. Bicarb., ʒi.
Sod. Bicarb., ℈ ss.
Tinct. Hyoscyami, ʒ ss.
Inf. Buchu, ʒi.
Ter in die,

well diluted with water. Colchicum, you observe, is not in this mixture. I never give colchicum to a private patient; my belief is, it arrests the gouty inflammation, and 'bottles up' the gout-poison in the joint. I have seen patients sodden with gout-poison from the continuous use of colchicum, improved very greatly in their next attack from letting the 'gout' run its course, and getting the system cleared of the poison. Attacks of gout clear the system, as thunderstorms clear the air in sultry weather. But as the gouty patient may be suffering keenly, and you and he may not be very thoroughly acquainted, it perhaps may be well to add.

Vin. Colchici, ♏ xv.

to the mixture. To hospital patients, who must be well as soon as possible to work for wife and children, I never withhold colchicum; but nevertheless, in reality it is 'bad practice.' The old and still favorite measure with many practitioners is:

℞ Mag. Sulph., ʒj.
Mag. Bicarb., grs. v.
Vin. Colchici., ♏ xv
Aq. Menth. Pip., ℥i.
Ter in die,

and it is not a bad measure for giving relief in cases of acute articular gout; but, on the whole, the Pot. Bicarb. treatment is to be preferred. When the gout is firmly located in the patient, or in common parlance he is 'eaten up with gout,'

Pot. Iod., grs. iii.
Pot. Bicarb, ʒ ss.
Inf. Gentian., ʒ i.
Ter in die,

swallowed with copious draughts of water, is a good measure. Then the food should consist of fruit, farinaceous foods, fish and fat—the four F's; albuminoid foods being taken but sparingly.

Diabetes is a disease not to be confounded with mere glycosuria, as it has been too frequently. When the result of shock or emotion of whatever kind, it is far from intractable to treatment. Opium in doses of from one to two grains night and morning, or codeia gr. $\frac{1}{8}$ ad gr. $\frac{1}{4}$, are often of much service. Then the patient may have a chalybeate tonic, with advantage. A great matter is the avoidance of starch and sugar; and a diet of meat and vegetables, known as greens, or of almonds or gluten biscuits is indicated. But for small quantities of sugar, especially in stout persons, and where there is no ill-health complained of, do not be too heroic in your dietary; just avoid sugar. Many a diabetic has been made much worse by a too restricted dietary; but do not tell an examiner so, as your statement might be attributed to ignorance.

CHAPTER IX.

SLEEPLESSNESS—HEADACHE—COUGH—PALPITATION, ETC.

Beyond the conditions requiring general management of the patient, there are some more special matters to be considered. They may well be taken from above downwards.

Headache is a common complaint. If it is periosteal, iodide of potassium in five grain

doses is good. Where it is inflammatory in character,

℞ Chloral Hydrat.
Pot. Brom., āā. ℈ ss.
Mist. Camph., ʒi.
6tâ quâque horâ,

is a good combination. Clear out the bowels with a Cal. Col. pill at night, and the black draught, or its equivalent, in the morning. If there is a feeble pulse, with pain and weight at the vertex—the indication of cerebral anæmia—Easton's syrup, or:

℞ Cit. Fer. et Quin., gr. v.
Liq. Strychniæ, ♏ v.
Inf. Quass., ʒi.
Ter in die,

is good. The same is good in cases of neuralgic face-ache, common in women; here it is well to see if there are any drains on the system, as leucorrhœa, or menorrhagia. In *epilepsy*, however anæmic the patient, iron does not do well; it may improve the general condition, but it aggravates the fits. It is better to give:

℞ Pot. Brom., ℈i.
Mist. Camph., ʒi.
Ter in die.

Keep the bowels open, and see that the fits are not induced by a surfeit. Especially is the bromide useful in epilepsy associated with the catamenia.

Delirium, when acute and not preceded by chronic evidences of brain disease, should not cause alarm, and does not in itself require treatment. If the head be hot, a bladder of cold water or of ice, is indicated.

Sleeplessness is a matter often calling for treatment, and chloral hydrate is now largely resorted to by many persons, as the numerous deaths recorded in the newspapers testify. When the patient complains of sleeplessness,

find out, if possible, the cause. If due to pain, give opium; but if there also be a full pulse, give it with antimony or with chloral.

Pulv. Opii, gr. i.
Antim. Tart., gr. ⅙.

is good in sleeplessness due to pain, as in an abscess or whitlow. In inflammatory conditions:

Tinct. Opii, gtt xx.
Chloral Hydrat., ℈ss.
Mist. Camph., ℥i.

will often furnish relief. Children do not tolerate opium well, neither do persons with chronic renal mischief. Then for an adult:

Chloral Hydrat., ℈ss.
Pot. Brom. ℈i.
Mist. Camph., ℥i.,

will often give relief. A draught of alcohol at bedtime is often of great service, especially where worry is the cause of sleeplessness. And, mind, never forget to see to the feet. Cold feet have more to do with sleeplessness than any one thinks who has not studied the subject. Neglect of this fact often spoils an otherwise good line of treatment. Rub the feet well with a rough towel, put a bottle of hot water to them, and the patient sleeps. For sleep a condition of cerebral anæmia is essential, and cold feet keep the blood too much in the head. When there is heat in the head, give chloral in ℈ss. doses, or:

Tinct. Aconit., gtt iv.
Pot. Brom., ℈i.
Aq. Menthæ., ℥i.,

at bedtime. Persistent, severe headache is often syphilitic in origin, and requires specific treatment.

Cough may be due to trouble in the bronchial tubes. If in the first stage of *bronchitis*, give:

Pot. Iod., gr. v.
Vin. Ipecacuan., ♏ x.
Liq. Am. Acetat., ℥i.
6tâ quâque horâ.,

and allow the patient to inhale steam from a sponge or flannel wrung out of hot water, if more elaborate arrangements are not attainable. It is often good practice to add to the water some turpentine, so as to add its fumes to the steam. This will produce relaxation of the congested mucous membrane, inducing free secretion, after which it becomes necessary to give stimulating expectorants—that is, agents which act directly on the respiratory centres. These are ammonia, strychnina, and atropia. They may be combined thus:

Am. Carb., gr. iv.
Tinct. Nuc. Vom., ♏ v.
Inf. Serpentariæ, ʒ i.
6tâ quâque horâ.

or:

Elix. Doverinæ, ʒ i.
Liq. Atrop Sulph., ♍ i.
Aq. Menth., ʒ i.
6tâ quâque horâ.

A common mixture is:

Am. Carb. gr. v.
Sp. Chloroformi, ♏ xx.
Inf. Senegæ, ʒ i.
6tâ quâque horâ.

Never shake a mixture containing senega, if you can help it. Why ?—just do it once, for the sake of the experiment.

Again, *cough may be due to the presence of a new growth in the lung structure*, as a mass of tubercle. Here the offending matter cannot be removed, so the cough must be allayed by suitable doses of opium or morphia, which will add to the night sweats, if existing, or excite them probably when not present; this may be prevented by combining with them belladonna, thus:

Elix. Doverinæ, ʒ i.
Liq. Atrop. Sulph., ♏ i.
Aq. Menth., ʒ i.
o.n.,

which is a most excellent night draught.

Then *cough may be a neurosis*, as is often seen in children of both sexes, and in young

women, simulating the cough of phthisis, and often causing much needless alarm. Here a tonic, like Easton's syrup, or any of the iron tonics, will do good. Or it may be well to give

Pot. Brom., ℈ ss.
Tinct. Fer. Mur., ♏ x.
Aq. Menthæ, ʒi.
Ter in die.

If this lock up the bowels, as it is very apt to do, give Elixir Frangulaxine before breakfast; or add it to each dose. To treat a cough properly, is often to get great credit; but to do so you must, usually, be clear as to its cause, and treat it accordingly.

It may be *due to vascular congestion*, as in mitral disease, when digitalis will do more good than any other cough mixture.

HEART DISEASE.

This brings us to the matter of the treatment of *palpitation*. Where palpitation is not brought on nor increased by effort, do *not* give digitalis, but bromide of potassium. But when the arteries are empty, the veins full, and effort brings on palpitation, give digitalis; no matter what the condition of the heart, whether mitral disease be present or not. No doubt in mitral disease digitalis is of the greatest service.

Tinct. Digital.,
Tinct. Fer. Mur., ♏ x.
Inf. Quass., ʒi.
Ter in die,

is in general vogue in heart weakness. It should be given steadily for weeks. If the patient be very weak, let him rest in bed. Rest is a potent measure in heart-disease, as you will see often enough in hospitals, where no medicinal treatment but simply rest in bed, makes a wonderful difference in the patient. But some digitalis will make the improvement more rapid, and keep up the improve-

ment when the patient leaves the hospital. It is well to combine strychnine with the digitalis, thus:

Fer. Am. Cit. grs. v.
Tinct. Digitalis, ℥ x.
Tinct. Nuc. Vom., ℥ iv.
Inf. Quass., ʒ i.
Ter in die.

This will often give you the most satisfactory results. Where there is chronic *dilatation* of the heart, with or without mitral disease, it is well to give digitalis in pill form.

Strychniæ, grs. ii.
Pulv. Digital.
Fer. Sulph. Exsic., āā ʒ ss.
Pulv. Pip. Nig., ʒ i.
Pil. Al. et Myrrh, ʒ ss, m. ft.
In pil. 60 div.; i. bis in die.

The nauseous taste of digitalis is thus avoided, and the iron does not effect the teeth; finally, there are no medicine bottles required. Keep up the treatment for months, or years if necessary. But when you find the palpitation not produced by effort, and there is a tense artery, and evidences of a hypertrophied left ventricle, with accentuation of the aortic second sound, give the patient alkalies, and put him on a non-nitrogenized diet. Here is 'the *gouty heart*,' whether actual disease of the aortic valves be present or not. Give

Pot. Bicarb., ʒ i.
Sod. Sulphat., ʒ i.
Inf. Cascarillæ, ʒ i.
Ter in die,

with a calomel and colocynth pill once or twice a week. If there is a gouty state with a feeble heart, or the hypertrophied heart is failing, ten drops of tincture of nux vomica, of digitalis, or, maybe of both, prevents any depression the treatment might otherwise cause. In girls and young women, where there is violent action of the heart, with violent paroxysms of palpitation at times, see to

the bowels and intra-pelvic irritation and treat accordingly. For the heart, if there be no mitral disease, digitalis is undesirable.

Sod. Sulphat., ʒ ss.
Pot. Brom., ℈i.
Aq. Menthæ, ʒi.
Ter in die,

is indicated. And put on a belladonna plaster. When there is a hæmic murmur in the pulmonary artery, with palpitation in girls, that is, a condition of anæmia, give then a chalybeate and keep them in bed for a week or two.

If a patient with known heart-disease has an attack of *dyspnœa*, is sitting in a chair, or propped up in bed; indeed, cannot breathe in the recumbent posture: what are you to do here? Put a hot poultice to the chest; heat stimulates the heart. Then give

Am. Carb. grs. v.
Tinct. Nuc. Vom.
Tinct. Digital., ää ♏ x.
Aq. Menthæ, ʒi.
4tâ quâque horâ,

until relief is attained; then reduce the frequency of the dose. Keep up the strength with beef-tea, milk, and alcohol. It might be well to take a few ounces of blood from the arm if the heart be felt beating violently, and the pulse weak and the face congested—showing that the right ventricle is overtaxed.

At another time there is *dropsy* with heart-disease. First put the patient on the last mixture for a couple of days at least. Then he must be purged.

Elaterii. gr 1-10.
Pulv. Jalap. Co., ʒ ss.

in the morning early will usually bring away a number of watery stools. Do not think this too heroic treatment; the profuse catharsis gives great relief. Then give Sir James

Simpson's bath. That is, fill six or eight lemonade bottles with boiling hot water: cork them tightly. Then wring as many worsted stockings out of hot water. Draw the wet stocking over each bottle, and pack them one by one round the patient in bed. In from thirty to forty minutes the patient is sweating freely. Let this go on till the end of the hour: then remove the bottles. The patient will continue to sweat for an hour or so longer. Then remove the wet blankets, without giving the patient cold. Do this twice a week, and purge twice a week, continuing the mixture. Usually the dropsy will subside pleasantly. Do not prick the swollen legs, but if necessary put in Southey's drainage tubes, and let the fluid drip off the bed, not into it. If dropsical patients cannot, or will not stand purging, they usually die.

CHAPTER X.

ON INDIGESTION—DIARRHŒA—CONSTIPATION, ETC.

In acute indigestion give

Cal., gr. iv.
Pulv. Ipecacuanha, ℈i.

to an adult. Get the offending mass up if possible; then in an hour give an ounce of castor oil to remove any portion left in the bowels. Always look out for acute indigestion in sharp high fever in children. Give them only half the ipecacuanha, or make them vomit by tickling the fauces with your finger: and mind when doing this they do not bite you.

For diarrhœa, first determine its form. If due to offending matter in the bowels, and the motions, though numerous, are small in

bulk, and not accompanied by a sensation of relief, give one ounce of castor oil, or better still, Pulv. Rhei. ℈i.

Rhubarb first opens the bowels and then constricts them. For the diarrhœa from irritant matter in the bowels it is excellent. An ounce of the Tincture of Rhubarb may be substituted for the powder.

If the diarrhœa is profuse in quantity and debilitating, it may be well to give adults

℞ Cretæ Prep., ℈i.
Tinct. Opii., ♏ x.
Tinct. Catechu, ʒ ss.
Aq. Menth., ʒ i.
4tâ quâque horâ.

or:

℞ Ac. Sulph. Dil., ♏ xv.
Tinct. Opii, ♏ x.
Inf. Hæmatoxyli, ʒ i.
4tâ quâque horâ.

To this may be added:

℞ Cupri. Sulp., gr. ss.
Pulv. Opii., gr. i.
Ext. Hæmatoxyli, gr. ii,

at bed-time. If there be much pain, an enema consisting of a pint of starch with a drachm of laudanum may be thrown up the bowel.

Then there is *the diarrhœa of hot weather*,

[The salutary or at least non-injurious effects of diarrhœa in children during hot weather, should be received with considerable allowance; for it is often very injurious, even fatal.]

which is as well let alone as regards medicine, and where a milk diet is sufficient for mild cases. Whenever the tongue is furred, especially yellow, encourage the diarrhœa. Do not attempt to stop it. Where there is the pale stools of children, without bile, known as 'the white scour,' in warm neighborhoods, give three grains of calomel. In

diarrhœa in infants, see if there is undigested milk curd in the stools. If so, mix the milk with some lime-water, and add a dessert spoonful of baked flour, or some baby's food, to prevent a firm curd forming. Also do this when curd is found in the stools of a typhoid fever patient.

When the diarrhœa is *uræmic* in old kidney disease, with either complete or partial suppression of urine, do not attempt to stop the diarrhœa until the kidneys act well. To stop the diarrhœa without this is to imperil the patient's life still further. Put poultices over the loins, give a milk dietary with a little gin, and

Pot. Nit. grs. v.
Liq. Fer. Pernit, ℥ xv.
Inf. Calumbæ, ʒ i.
Quater in die,

if you must give some medicine. But eschew opiates and astringents till the kidneys act freely. Always remember that opium acts upon the viscera, through their nerve-ganglia, as well as upon the intestinal ganglia, or the cerebral hemispheres. Many an untoward result from opium would be avoided if this were more universally recognized. Consequently, never give opiates carelessly when a viscus is gravely embarrassed, and especially if the kidneys are the seat of trouble. Keep up the action of the skin; avoid all nitrogenized food which will throw more waste into the blood and add to the gravity of the position. Keep your head clear and cool, and remember your physiology, and what has been said before in Chapter II., on 'Excretion,' and you will steer your patient through the storm successfully, at least in a majority of cases. But do the wrong thing, then disaster is pretty sure to follow. You may be-

come the object of suspicion with some of the friends of the patient, or busybodies, who will press upon you another and more energetic line of action. This is one of the greatest trials to which the young practitioner is subjected. But pursue your course unswervingly.

Then there is a form *of diarrhœa which is distinctly nervous*, and the result of our 'long run' expresses, not stopping for a couple of hours. Here it is well to give the patient Pulv. Rhei., ʒss the day before, and five grains of Pil. Saponis Co. at bedtime, and to put him on a milk and corn-flour diet.

In *colliquative diarrhœa*, usually accompanied by profuse sweats, give

℞ Cup. Sulph., gr. ⅛.
Ac. Sulph. Dil., ♏ x.
Inf. Hæmatoxyli, ʒ i.
4tâ quâque horâ,

with a Cup. et Opii. Pil., at bedtime. Very energetic treatment is necessary under these circumstances.

In the diarrhœa of a tubercular ulceration of the bowels, the same measures must be adopted, with a diet of milk and wheat-flour, or arrowroot, thoroughly mixed.

Then there is the opposite condition of *constipation* to deal with. We will commence with less obstinate forms. A person has merely irregular action of the bowels. Here a pill of aloes and myrrh, gr. iv. at bedtime every second night may be enough, with a dessert-spoonful of citrate of magnesia the next morning in a tumbler three parts full of water. Or, Pil. Col. Co. may be required instead of the Pil. Al. et Myrrh. Such measures are sufficient for ordinary constipation with a fairly clean tongue. A capital mix-

ture is the Mist. Alb., or house-mixture of many hospitals:

Mag. Sulph., ℥ss.
Mag. Carb., ℈i.
Aq. Menthæ Pip. ℥i., p. r. n.

When there is habitual persisting constipation, make the treatment more active:

Strychniæ, gr. ii.
Podophylli, ℥ss.
Pulv. Capsici, ℥i.
Pil. Col. Co., ℥iii., m. ft.
In pil. 60 div.
i. bis in die,

will form an efficient purgative, or perhaps only laxative in severe constipation. If this is not sufficient, add black-draught, seidlitz-powder, or citrate of magnesia in the morning, twice or thrice a week. In very intractable cases you will find that a combination which gives excellent results at first soon fails. Then you will have 'to ring the changes;' give Tamar Indien, Cockle's pills, purgative waters, and then back to the last pill, and round again. Very troublesome some of the cases are, I can assure you, from the patient lacking perseverance.

[A very good remedy for these chronic cases is Farrand, Williams & Co.'s Elixir Frangulaxine, given in dessertpoonful doses, before meals for a few days.]

Then there are *cases of constipation with a brown-furred tongue*, indicating a bilious condition. The patients will tell you they have taken salts, or Eno or Cockle's pills, and been freely purged, but are no better. Here what is requisite is not a mere stimulant to the intestinal canal, but something to stimulate the liver. Consequently the Pil. Cal. Col. Co. and Sod. Sulph., etc., so often referred to before, are indicated—the mixture every day thrice; the pill every other night at bedtime. Often it is simply surprising how a mercurial

pill at night will bring away a couple of bile-laden stools, and then, *presto*, the tongue is clean. In this, as in other forms of constipation, it is well to be patient and persevering.

For *chronic constipation*, Rhubarb is extensively used; yet it is the most inappropriate of all the laxatives. It locks up the bowels after having opened them, and thus perpetuates the necessity for a laxative. You will find, as a matter of practice, that where a patient has been long habituated to Pil. Rhei. Co., it is enough to stop this, and give Pil. Al. et Myrrh, gr. v., at bedtime, and the patient soon loses the constipation. Often a tumblerful of cold water in the morning is sufficient to keep up regular action bowels.

[A dessertspoonful of Farrand, Williams & Co.'s "Elixir" Frangulina, with the water, will be found efficacious.]

The patient may complain of piles. If stout and plethoric, the loss of blood is rather good than otherwise. If the loss causes the patient to look pale and ex-sanguine, it must be stopped. Keep the bowels well open with alkaline saline purgatives. For the local treatment, ointments, even made with vaseline, a great improvement on 'unguents,' are uncleanly. Let the patient wash the bowel immediately after the motion has passed, with soap and water, by means of a little sponge or piece of flannel, till every particle of fæces is believed to be removed; then dab the piles with a solution of alum, ℥ ss to the pint; after this return them into the bowel. In a large majority of cases this measure will give efficient relief. The patient should as soon as convenient take these different things into the

water-closet, and use them 'immediatly' after the motion has been passed.

Then there are RENAL TROUBLES, and one of these is '*ureteral colic*,' when a calculus is dislodged from the pelvis of a kidney and becomes impacted in the ureter. Then there is a severe depressing pain along the affected ureter, and drawing up of the testicle on that side. Here give opium freely

Tinct. Opii, ℥ xv.

every two hours; and keep hot poppy-head poultices or turpentine stupes over the abdomen. The pain may be such that the dose of opium must be increased. But as soon as the severe pain is over, withdraw the opium entirely, or just continue it in ten minim doses every six hours. The same line of treatment applies to gall stones.

When you find indications for a *diuretic*, you may probably combine several agents, as

Pot. Citrat., ʒ ss.
Sp. Juniperis Co., ʒ ss.
Tinct. Digital., ℥ x.
Inf. Buchu., ℥ i.
Ter in die,

and find it very useful. It is, however, distinctly a 'pot-hunting' prescription, as ordinarily used. There are two classes of diuretics, (1) those which increase solids, as potash salts, and probably juniper and buchu, and to a less extent others; and (2) those which increase the bulk of urine, *i.e.*, the water. These latter act by increasing the arterial tension and from it the excretion of water: these are digitalis, which is given in cardiac dropsy with a slack pulse, but is of little or no use when given with a tense, hard pulse, no matter how great the dropsy; belladonna, squill, and scoparius. The two forms

may be combined as in the foregoing prescription, but be clear about what you are doing; don't give digitalis for lithic acid deposit, or potash where the bulk of urine is small. But where there is both, combine them. Free action on the bowels often does much good where there are pink lithates. Purgation is always good in dropsy of renal origin, whether acute or chronic.

Acute renal dropsy, is usually brought on by cold, and is pretty universal over the body, while the urine is smoky or bloody. Here, to give the kidneys physiological rest is the first matter; therefore the food should *not* consist of beef-tea, but of milk and seltzer-water, arrowroot sweetened, fruit, corn-flour blancmanges, cream and soda-water, or potash-water. Then the patient should be sweated well with Sir James Simpson's bath every day or second day, and given Elaterium, gr. $\frac{1}{20}$, and Pulv. Jalap Co, ʒ ss, twice a week; not on the same days as the bath, however. For a mixture give:

Pot. Cit., ℈ ss.
Sp. Chloroform., ♏ xv.
Inf. Buchu., ℥ i.
Ter in die.

When the active symptoms are over, it is well to give fluids freely in order to wash the dead masses of epithelium out of the blocked renal tubules. But be careful: do not push a favourable convalescence off the balance by animal food, iron, and tonics, before the kidneys have regained their functional strength; and so overrun their returning power.

In *chronic renal disease*, otherwise broadly known as 'Bright's disease,' it is impossible in a brief work like this to give the student any broad rules which can be of much use to

him. Probably he will rest his diagnosis, wisely or unwisely, upon the presence of albumin in the urine. When he does find albumin present, his next business will be to find its significance—a much more difficult matter than to test for and discover its presence. How to appraise it I must refer to 'Auscultation and Urinalysis,' etc. It is well when albumin is found to pursue the line of relief of the kidneys given above. In addition, it may be well to give fifteen minims of the tincture of steel three times a day, after food. As to the wisdom of giving gallic acid, astringents, chalybeate or other remedies, to check the outflow of albumin, it is not apparent; and this plan of treatment is becoming obsolete. Another exploded plan is that of given quantities of albuminoids to meet the outgoing waste. This probably kept up the albuminuria, which often is markedly lessened by a strictly milk diet, and the avoidance of animal albuminoids. The student may smile at the expression 'animal albuminoids,' but as he grows older he will learn to recognize the fact that vegetable albuminoids are often more digestible and less disturbing in their later or remoter actions than animal albuminoids. But it is well to remember that in chronic renal insufficiency it is well to further improve the vicarious action of the skin by warm flannel clothing. In the first place, this protects the patient against sudden chills, which may arrest the action of the skin, and thus throw a great demand upon the impaired kidneys—a matter fraught with imminent danger. The warm clothing also keeps up the action of the skin, and so lessens the work of the kidneys.

[Albuminuria often exists without Bright's disease; and, in some cases of Bright's disease, many tests may be applied before albumin can be detected in the urine.*]

If called to a case of *uræmic coma*, purge quickly, promptly, and efficiently, with elaterin. Bleeding is often followed by good results. Ice to the head is of secondary importance, but may be used after the bleeding.

When there is dropsy, with or without head symptoms, *following scarlatina*, it is well to give, to a six-year-old child,

Elaterini, gr. 1-100.
Pulv. Jalap. Co., grs. x.

keep it warm in bed, and on alternate days purge and sweat by Simpson's bath; taking every care that the child does not catch fresh cold. Then give the child

Pot. Citrat., gr. vi.
Aq. Anethi, ʒ ii.
Ôtâ quâque horâ,

and milk and farinaceous food; not beef-tea, meat, etc. A little later it may be well to prescribe

Pot. Bicarb.
Fer. Am. Cit., ââ grs. iij.
Aq. Menth., ʒ ii.
Ter in die.

Now we come to a subject of which the student usually learns so little at his hospital—and feels so awkward about in practice—that it will be treated somewhat more in detail than the preceding matters. *This is the question of 'female troubles.'*

Menstruation is a superfluous wave of nutrition, and belongs properly to adult life. When it becomes established at puberty it is apt to limit the growth. It is well, indeed, when the catamenia are scanty from puberty to adolescence, that is, till the growth is

*See "AUSCULTATION, PERCUSSION AND URINALYSIS." Leonard. Price, $1.00.

established. There is, indeed, a direct antagonism between this rhythmic loss, or 'body expenditure,' to use the language of Hermann, and growth. One goes on at the expense of the other. When a small girl of fifteen is freely unwell, it is very improbable that she will ever be a well-grown woman. When a girl is growing well, and developing into a tall, robust woman, she usually is not much unwell, and has very little trouble at her periods. Her 'generative expenditure' is small. When the catamenia are strongly developed in a small, weedy girl, she usually has leucorrhœa also, and a large generative expenditure, though a spinster.

It is very desirable to thoroughly comprehend this view of menstruation. It consists of a cycle; there is the three-weeks interval during which there is a gradual ascent of arterial tension; the zenith is reached at, or just before the time the menses are due; then comes the catamenial week, with a comparatively rapid fall of arterial tension. Three weeks of rise, and one week of fall; and so the menstrual cycle rolls on. This rhythmic loss is a wave of superfluous nutrition, which when arrested by impregnation, feeds the future organism in the uterus.

Having grasped this idea fairly, you will readily understand why, in underfed girls, this discharge does not usually manifest itself at the ordinary time, but is delayed. The system is in no condition to provide this superfluous wave: it cannot feed itself properly. Then, again, you can see why a sudden 'growing-fit' in a girl may arrest her menses partly, or completely, without giving rise to any real cause for anxiety. Also, when phthisis shows itself the menses may be

arrested. Mothers, especially of the working-classes, make themselves often very anxious about the disappearace of the menses in their daughters. Their reasons may be varied; whatever they are, they are very anxious that the doctor should restore the flow; they know that its reappearance relieves the maternal mind. But it is evident that the only means of restoring this 'superfluous wave of nutrition' is to feed the organism. Consequently, bitters to whet the appetite; iron to make more blood; rest from labor, if excessive, are all indicated, and when the system can afford the rhythmic loss, it shows itself. You will prescribe a bitter tonic, as

℞ Liq. Strychniæ Br., ♏ iii.
Ac. Phosph. Dil. ♏ x.
Inf. Gentian., ʒi.
M. Ter in die,

twenty minutes or half an hour before meals, if the appetite is defective. Then give ten drops of tincture of steel, or better still, of dialysed iron after each meal. Continue steadily, and give an aloes and myrrh pill every night, second night, or third night, as required to act on the bowels. If the patient is poor, the strychnine and iron may be given together after meals with advantage. Then savine is a direct stimulant to the uterus, as is aloes. Consequently there is a good old-fashioned pill in common use in the country, which is well worth your attention;

℞ Fer. Sulph. Exsic.,
Ol. Sabinæ, āā ʒi.
Pulv. Pip. Nig.,
Pil. Al. et Myrrh., āā ʒ ii., m. ft.
In pil. 60 div. i. bis in die.

This is economical for poor patients, and is not a troublesome mass to make up. Food, rest, and hæmatics, and your young patient will usually do well. If the assimilation is

defective, very often cod-liver oil will improve the patient materially.

In some mature women *amenorrhœa is often found with leucorrhœa.* Here the leucorrhœa may be marked, but still there are imperfect menstrual periods; at other times the menses are lost in the leucorrhœal discharge. It is obvious that it is desirable to check this leucorrhœal discharge whenever it is troublesome, as it is very debilitating. Direct the woman to procure an enema syringe, pear-shaped or round, with a nozzle, ivory or gum elastic; which is to be preferred to the brittle glass syringe, especially for young girls. Direct the patient to wash all the discharge away with plain water first; then to fill the instrument with alum water (℥ i. to two quarts of water) and inject herself with this. Be firm about this; as it is troublesome, and women shirk it if not kept at it. You may, or may not give a chalybeate tonic, as the case requires.

[The wash in most cases should be warm.]

When there is menorrhagia present, another line of treatment is required. It is not out of place to give

Tinct. Fer. Perchlor., ♏ x.
Liq. Ergot. Ext., ʒ ss.
Inf. Quass., ℥ i.
Ter in die.

right away for weeks; and as a general line this is very good. But at other times it is well to remember the interval and the period. In the interval give a chalybeate tonic; good food; a hard mattress—you will have little prospect of success if the patient sleep on a soft feather bed; and improve the general health. Two days before the flow is expected stop the iron and give

Mag. Sulph., ʒ ss.
Ac. Sulph. Dil., ♏xv.
Liq. Ergot Ext., ʒ ss.
Inf. Gentian.
vel Aq. Menth. Pip., ℥i.
Ter in die.

Keep the patient cool and quiet, and let her take her food—milk, milk-puddings, meat, salad, etc., cold. Always keep the bowels open, especially at the periods, when they are all the better for being a little loose; all straining at stool is very bad in menorrhagia. If your patient cannot keep still and cool, let her come as near both as her circumstances will permit. Then put your foot down firmly on all hot tea; women stimulate themselves with a cup of hot tea; yet in a few minutes there is an increase in the loss. The hot fluid has dilated the internal blood-vessels, and sometimes quite a gush of blood follows. Point this out to them: they know it well enough.

With plethoric females, it is well *not* to give chalybeates, but the mixture given above should be taken for some weeks, in the intervals as well as the periods. When plethoric females become amenorrhœic, depletory measures, especially at the time when the catamenia should have appeared, had they still shown themselves, are desirable; and it is well to give warm hip-baths, or even to put a leech to the vulva at these rhythmic periods.

A tender ovary. A woman of any age during the reproductive period of life, complains of sickness, nausea, pain under the heart, and indigestion, yet her tongue is very often clean. On inquiry, you find she has vertical headache, is depressed, often cries; she is, more or less, constipated; has pain when her bowels move, or has pain on mak-

ing water, or both; has pains in her back and groins at her periods; often has difficulty in holding her water; has leucorrhœa, and often menorrhagia, with bearing down pains in the womb; and finally often experiences a sensation of heat, dryness, and itching in her rectum and vagina. The uterus may be flexed; but more commonly there is a tender ovary. If near the bladder, the pain is greatest in making water; if at the side, resting on the rectum, the pain is most marked when at stool.

The left ovary is the one usually affected. Press on it through the patient's clothes, and her face will tell you how she feels, viz., sick and faint. Now what are you to do? You may tinker away at her stomach with but very unsatisfactory results. Sometimes the vomiting leads to the suspicion of chronic gastritis. Many a girl has been apparently at death's door, and nearly worried the life out of all around her, with stomach symptoms, when really the matter is reflex—ovarian in origin. Put a cantharides blister (2 × 2) over the tender ovary at bedtime, and next morning it will have risen. This usually does not cause much discomfort. Then prescribe.

Sod. Sulphat., ʒi.
vel Mag. Sulph. ʒ ss.
Pot. Brom. ℈i.
Aq. Camph.
vel Inf. Gentian, ʒi.
Ter in die.

This soothes the ovary, relieves the nausea, and keeps the bowels open. If the last is not attained, give a Col. Co. pill at bedtime occasionally. Diet the patient carefully on milk and bland food, so as to give the stomach little to do. Repeat the blister at the next period. Pursue the treatment and you will do your patient good, and get credit.

Very often there is *menorrhagia* in these cases which does not yield to the astringent and ergot mixture. Be on your guard then, and look to the ovaries. Pursue the bromide of potassium line. In young girls, where the reproductive life is coming on too rapidly for their strength, do as above, and you will often find the catamenia dwindle down, or entirely disappear for a while; during which time the girl develops into a well-grown woman.

Menopause. Then when a woman reaches the change of life called 'the menopause,' her health is apt to be perturbed. There is much mistake prevalent among women on this subject. They often allow themselves to fall into a bad state of health before this change comes on, and, when it does come, they suffer severely. Now every woman should be put into the best possible state to meet this time of trouble, and then she will suffer less in that usually stormy period which marks the cessation of the reproductive period, and the entrance upon that calm sexless life which follows this change. Give vegetable tonics, carminatives, warm purgatives. This is a good pill:

Pulv. Ipecac., gr. ss.
Pulv. Pip. Nig.
Pil. Col. Co. āā grs. ii.
o. n.

Very frequently there is much cardiac debility, with dilatation, and with palpitation on exertion; in which case the pill might contain:

Strychniæ, gr. 1-30.
Pulv. Digital., gr. ss.
Pulv. Pip. Nig, gr. 1ss.
Pil. Col. Co.
vel Pil. Al. et Myrrh, grs. ii.

every day, an hour after dinner.

Let the patient avoid exertion; and remember it is infinitely better to keep the patient

quiet than to let her whip herself up with stimulants, so as to get about and exert herself.

There are few matters in general practice that are worth more to the student than careful attention to female troubles.

CHAPTER XI.

ON DISEASES OF CHILDREN,—SKIN DISEASES.

As to children. Examine and watch them carefully. If purged, or irritable, see to the general health of the mother or nurse, as the case may be: to put them right is often to cure the child. Often purgatives will act more powerfully on the suckling infant than on the patient herself. See to the milk; if possible, let it come from one cow. Swiss milk is a great boon for children in towns, and often agrees with children when fresh milk disturbs them. [This brand we have had large experience with, and find it excellent.] *When griped* give them

Pot. Bicarb., gr. i.
Ol. Cajeput, ♏ i.
Syr. Simp. ʒ j.
Aq. Anethi. ℥ i.
Quater in die.

When constipated, nothing is better than the 'ginger-bread nut' made with a few grains of jalap powder in each, sold by many chemists and confectioners. Why there should exist such a prejudice against the use of sulphate of magnesia, as a laxative for children, I do not know. It suits them well in five-grain doses. Sometimes the bowels of children are very obstinate; then it is well to prescribe

Mag. Sulph., ↄ ss.
Tinct. Sennæ Co., ʒ ss. Br.
Aq. Menthæ, ʒ i ss.
Ter in die.

[One of the best laxatives for children is the Elixir of Frangulaxine made by Farrand, Williams & Co, of Detroit.]

Rhubarb as a regular laxative is objectionable, for reasons pointed out before. Children never can swallow pills; remember that.

When children are ill-thriven and cachectic, they require

Ol. Morrh.
Vin. Ferri,. āā 3ss.
Ter in die.

This 'steel-wine and cod-liver oil' pleases the ear of the mother, as well as does the child good.

When aphthæ appear on the mouth or throat, or there is stomatitis, it is well to give

Pot. Chlorat., gr. v.
Syr. Aurant., ʒi.
Aq., ʒi.
6tâ quâque horâ.

Borax and honey has an established reputation for these ailments in children.

Borax (powder of), ʒi.
Clarified Honey. ℥i.

Of this a small teaspoonful may be given every three or four hours. Mixed with water this makes a capital gargle. Either of these two measures is good in ulcerated sore-throat in children.

In putrid sore throat, or in diphtheria, it is well to prescribe

Tinct. Fer. Mur., ♏ x.
Pot. Chlorat., gr. v.
Aq. Anethi.
vel Aq. Menthæ, ʒii.
4tâ quâque horâ.

and to feed the child as well as possible. Quinine and whisky should also be given. Sometimes, when the mouth is very sore, and even drinking milk is painful, it is much easier to suck the milk through a tube, as a glass rod. In a very severe attack of scarlatina this stood me in good stead.

ABSORBENTS.

Now a few words in reference to those remedies called 'absorbents,' which we use to remove enlarged glands, and various thickenings, periosteal and other.

Each artery carries to every part the nutritive serum of the blood; a large part passes on into the veins; a certain amount remains in the tissue for its nutrition; the surplusage passes away by the lymphatics, and so is made useful and not wasted. If not so removed it would lead to disturbance of tissue by excess. Consequently, the reader can clearly see that *when a part is inflamed it is useless to resort to absorbents.* When all active symptoms are gone, and there is neither 'heat, pain, nor redness' remaining, only 'swelling,' the time has arrived when absorbents will do good: as they will in enlarged glands without previous inflammation. You may prescribe iodide of potassium internally, as

℞ Pot. Iod.,
Pot. Bicarb., āā., gr. v.
Inf. Gentian.
vel Aq. Anethi, ʒi.
Ter in die.

Then, for external application, use the Ung. Iod. Co., or this with a little blue ointment (ʒii. Ung. Hyd. Fort. and Ung. Iod. Co., ʒvi.) or

℞ Hydg. Biniod., ℈ ss.
Vasaline, ʒi.

Under this, as a steady application, thickening and effusions will pass away. Some prefer to paint with tincture of iodine, but this is apt to blister.

[The addition of a little glycerine to tincture of iodine will prevent blistering.]

For an effusion into the knee-joint of gouty character, it was found well to add some tincture of nutgalls.

Tinct. Iod., ʒ v.
Tinct. Gallæ, ʒ iii.

will produce a not uncomfortable counter-irritation after being painted on twice a day for several days.

In all syphilitic growths, especially, the use of absorbents produces the most gratifying results, whether it be a gumma in the brain, or a periosteal node; or that terrible neuralgia produced by periosteal thickening at a foramen through which a nerve passes, which is then grasped in a merciless grip. Here nothing will relieve the nerve except giving mercury and iodide of potassium.

Liq. Hyd. Bichlor., ʒ ss.
Pot. Iod., ℈ ss.
Aq. Menthæ, ʒ i.
Ter in die,

which will melt down the periosteal thickening and release the nipped nerve.

NOTES ON SKIN DISEASES.

There are some matters connected with the skin to be mentioned. *Eczema* is very common at all ages. It is best treated internally and externally, by alkalies,

Pot. Bicarb.,
Sodæ Bicarb., āā gr. x.
Inf. Gentian., ʒ i.
Ter in die,

given before meals, and well diluted. To this may be added three drops of Fowler's Solution, or ten drops of tincture of nux vomica, as may be indicated by debility in the patient. For an external application

Sodæ Bicarb., ʒ i.
Pot. Bicarb., ʒ ii.
Aq., O ii.

may be kept applied on strips of linen rag.

If in the axilla, oxide of zinc ointment may be used.

In *all chronic skin-affections in children* who are underfed, badly nourished, or neglected,

℞ Ol. Morrh.,
Vin. Fer., ää., ʒ i.
Ter in die,

always does good.

In herpes it is well to apply the solution of the bichloride of mercury, twice a day, with a feather or a camel's hair pencil. This kills the growing eruption and dries up the already formed vesicles. But remember, herpes is not a skin disease proper, but a neurosis. The pain may continue after the rash has gone, or exist without an eruption at all; as I happen to know personally.

Then you may find scabies. Here it is well to order sulphur ointment to be rubbed all over the affected parts night and morning. The patients should wear the same clothes, and not have their bed linen changed during the four or five days of treatment. After this they should be thoroughly bathed or washed; and their clothes and bed linen thoroughly purified. This may be done in a simple way if more costly contrivances are not at hand. Hang up the clothes around a room; close the windows; put down a dish or tin containing sand or earth: on this place a red-hot shovel, on which place a handful of sulphur in powder. Close the door immediately, and don't enter the chamber for twenty-four hours, by which time the clothes will be fairly purified.

Then, again, there are *feet which smell offensively.* Here it is well to advise that the same shoes and stockings be not worn continuously, but on alternate days. Two pairs of each should be worn; and when put off they

should be exposed to the air, and, if possible, to the sun, during the day they are not worn. The feet should be washed perfectly clean with soap and water at bedtime, and then 'dabbed' well with a solution of sulphite of soda (℥i to the quart of water). Great perseverance is frequently required.

Cold feet are very common with women. They should be rubbed on getting into bed with a rough towel, or hair gloves till they glow. A hot bottle in bed after this will commonly keep up the warmth, and conduce to sleep.

For *chapped hands* in winter see that the hands are thoroughly dried every time they are wetted, and some mutton suet well rubbed in over the affected parts at bedtime. Vasaline is equally good.

When chilblains are actually established, it is well to rub them night and morning with tincture of cantharides; if ulceration is set up, an unguent containing opium (Pulv. Opii. ℈ ss. Vasaline ʒ ii.) is useful.

CHAPTER XII.

ON FOODS—APERIENTS AND CATHARTICS.

Again there is the question of food for the patient. Suppose the patient is in bed, acutely ill; milk is the food to be given. It may be given alone or with seltzer or lime water. If there be tympanitis present, give the milk with lime-water; the other is too gaseous. Then milk may curdle too firmly in the stomach; of which curd in the stools is the evidence. Here it is well to dilute it as above, and to mix with it some biscuit or cracker powder or baked flour of any kind (a teaspoonful to the pint).

Beef-tea or mutton-broth may be made by cutting a pound of the lean meat to shreds, placing it in a quart of cold water for half an hour, and then boil twenty minutes. Remove the scum as it rises, season to taste, cool, and strain. It should be given cold, and it is well to add a little fine oatmeal or boiled arrowroot, to give it some better 'food value.'

When the bowels are loose, stick to milk; beef-tea keeps up the purging.

Another pleasant drink is to dissolve a tablespoonful of sugar in a quart of water with the juice of a lemon; then add the white of an egg and froth up.

Apple-water (1 lb to the quart of water) is easily made, by boiling the pared apples in the water, and allowing it to stand till it is cold; and then straining. All these fluids may be iced in pyrexia with advantage.

It is impossible to discuss here the use of *alcohol;* it would occupy too much space. This may be said: do not use it too freely, nor forget its value; it is not desirable to discard its use altogether.

Always see that the food is put before the patient in an appetizing form; everything scrupulously clean. Never—and please do mind this—never allow any food to remain in the sick chamber one moment longer than possible. Just that quantity should be taken in that can be taken at once; if any remain, let it be removed from the room at once, and the same with any fruit, grapes, etc. They acquire a taint in the sick-room, and do not become more appetizing from being looked at. Ice left melting in water in the sunlight; some calf's foot jelly in a saucer; a few grapes on a plate—how often seen by the patient's bedside!—is not good nursing.

The ice should be kept in a flannel in sawdust in the coolest place in the house, and only a piece chipped off as required.

Liebig's extract dissolved, and then allowed to become cold, forms a nice drink. So does water in which some rice has been boiled (a tablespoonful to the quart), or linseed-tea or barley-water; all nourishing.

When the patient can eat, let the food be given in small quantities, so that the patient grumbles for a little more. This is much better than when too much is sent in at once.

Now let me insist upon one thing: when in acute disease the tongue becomes denuded of epithelium (as described in another chapter), no matter what the particular malady, you must attend to the 'primæ viæ.' If sickness comes in, then give

Bism. Trisnit., gr. x.
Sod. Bicarb., gr. v.
vel Pot. Cit., gr. vi.
Mist. Acaciæ, ʒ i.
Inf. Columbæ, ʒ i.
6tâ quâque horâ.

Give milk *sleathed* with alkali as above. When it becomes very curdled, and there is *diarrhœa*, add ten grains of prepared chalk; if constipation, as much carbonate of magnesia as will cover a sixpence to each half-pint of milk. Increase the amount if great acidity be present, and it is required. If the stomach turns rebellious, compromise with it; If it is very irritable, it is well to reduce the amount taken at once to one tablespoonful at a time. If this is not well borne, give a hypodermic injection of an eighth of a grain of muriate of morphia, and then in half an hour, when the morphia is in action, try to get a little milk down.

When there is reflex vomiting, as in pregnancy, try

Bism. Trisnit., ℈ ss.
Pot. Brom. ℈i.
Mist. Acaciæ, ʒ i.
Inf. Columbæ, ℥i.
6tâ quâque horâ.

When the stomach is irritable and with the tongue raw, a simple opium pill

Pulv. Opii.; gr. i. Vel.
Ext. Opii., gr. ss.

a little mite of a thing, which, from its bulk, does not irritate the stomach, is often very serviceable at bed-time; for its local as well as its general effect.

THE USE OF APERIENTS.

This is a subject about which the student is taught very little, and where the older practitioner usually scores so markedly over his juniors, that the matter deserves to be dealt with somewhat in detail. It is desirable to differentiate the varied conditions, clearly, in order to deal with them intelligently.

In acute disease the bowels may not have been open for days. Now remember that the patient has been on a diet which furnishes very little of the material of the fæces, as woody fibre, muscular fibre, the parenchyma of plants, undigested starch cells, etc., so that there is no great load in the bowels, even when they have not been opened for several days. *If the tongue be clean*, and the patient does not complain of discomfort, *do not be in a hurry to act.* Where there is rheumatic-fever and movement entails pain, be patient. If percussion tell that there is a load in the the cæcum, an *enema* of warm water, made soapy, about one pint or a pint and a half in bulk, slowly thrown into the bowels, will usually clear the cæcum of its contents; and so relieve the patient. Where there is peritonitis and the vermicular action of the bowels

is arrested by the pain, caused by rubbing the inflamed serous layers upon each other, give a dose of castor-oil (℥ i. ad ℥ iiss.) or olive-oil (℥ ii. ad ℥ iii.), which will cause the small intestines to empty themselves with the least possible movement. When the pain is great, give therewith from twenty to thirty drops of laudanum. Where more active measures are required, give simple jalap powder from ten to twenty grains. This causes little griping.

A scruple of jalap the third day after confinement, was my father's favorite laxative for parturient women, if the bowels were not spontaneously open. But in acute conditions do not disturb the patient more than you can help; and, also, do not run the risk of giving them cold by getting them up on the night-chair without valid reasons. Remember here that what you want is a *laxative* rather than a *purgative:* you merely wish to unload the bowels, and you must achieve this end with the least possible discomfort to your patient

[One of the best laxatives, that operates without griping, is Farrand, Williams & Co.'s "Elixir Frangulaxine." It is made from the barks of the Rhamni Frangula and Cathartthicus, with a small amount of senna, rhubarb, euonymin, podophyllin and juglandin. Its usual dose is a dessert-spoonful before meals, to be continued for several days. We have used it largely, and have seen nothing its superior for the purpose intended.]

When the tongue is covered with fur, especially of a yellow or brown hue, give four grains of Pil. Cal. Col. Co. at bedtime; and probably next morning the bowels will be open, and the tongue clean, or cleaner.

But do not either be too anxious about the

bowels in acute disease, nor neglect them; inquire after them every day carefully.

When there is intussusception of the bowel, the bowels usually are locked up mechanically. Do not attempt to force them by violent purgatives.

When there is pain referred to the navel, while the bowels are locked, and vomiting comes on, be on your guard to suspect a hernia, or ileus.

At other times *there is a stricture of the colon*, with a clear resonant gut below the obstruction, and a pouch full of fæces, may be water or flatus, above, but usually a fæcal accumulation. Here it is necessary to do two things: relieve the pain caused by the useless attempts of the bowels to force the fæces through the orifice, by ten minims of laudanum; at the same time liquefy the fæces, so that in a fluid form they may pass the barrier of constricted gut. To do this, nothing is better than sulphate of magnesia; half an ounce in warm water. Give

Magnesiæ Sulph., ʒ ss.
Tinct. Zingiber., ʒ ss.
Tinct. Opii. ʒ ss.
Aq. Ferventis, ʒ ss.

when cool enough to drink, take at once. In the meantime relieve the griping by flannels wrung out of hot water, sprinkled with turpentine, and placed over the bowels.

Be very careful about opium in thoracic affections; but in maladies of the abdomen, or pelvis, you can use it boldly, especially if there exist much pain.

Sometimes *there are scybalæ* lodged in the pouches of the cæcum; prescribe the combination just given, and also use the soap and water enemata, until the hard scybalous masses are all washed away. At other times there is

an accumulation in the lowest portion of the cæcum, finding its way into the sensitive rectum, and setting up the most persistent, agonizing desire to empty the bowels. Here all purgatives are useless; the mass must be dissolved by enemata, or broken up by the handle of a metal spoon or lithotomy scoop.

At other times *there are piles or anal fissures* associated with the constipation. The local treatment has been given, but the general measures are spoken of only in broad terms as 'alkaline saline purgatives.' These liquefy the fæces, to use a somewhat old-fashioned term, and so enable them to pass the painful anal orifice with the least possible amount of pain.

℞ Mag. Sulph., ℥ss.
Sodæ Bicarb., ʒi.
Tinct. Zingib.
Inf. Gentian, ää ℥i.

with an equal quantity of boiling water, so a to make it as warm as the patient can comfortably drink it, immediately after getting out of bed in the morning is a good measure.

To give laxatives warm in the morning early, lessens the griping, and makes the bowels move more quickly; thus obviating that annoying matter, the action of the bowels during the day, so socially inconvenient.

There is one thing I should like to have you know about aloës producing *piles*, though the evidence is unsufficient, as believed by many. It is a remedy that has been used with much success in treating this disease.

Did you ever hear of or think about *reflex constipation?* Nevertheless it is coming to the front. When the vermicular action of the bowels causes pain it is inhibited, or arrested reflexly. Thus, a swollen, tender ovary, an irritable bladder, or a displaced or enlarged ut-

erus, are all disturbed by the action of the bowels; pain is produced in the act of defecation, and so the action of the bowels is reflexly held back. The consequence of this is that a fecal load accumulates there, and the evil is aggravated; the mass constantly pressing on the tender spot and producing persisting pain, while the strenuous action of the gut to pass the obstruction sets up from time to time great agony. Here the bowels must be opened and kept open, by the above laxative in the manner given; if necessary giving the opiate before they move, to lessen the suffering. In the same way piles lead to constipation; and constipation in its turn entails further suffering. So keep the bowels open: to do this, though painful, is to remove the irritation of the fecal mass pressing on the morbid part, and thus aid in its recovering its normal condition.

Pain and tenderness in the lower lobe of the *liver*, or a distended gall-bladder, will likewise arrest the movements of the descending colon reflexly, and lead to constipation. Here it is well, in addition to the treatment mentioned, to resort to hot fomentations. By keeping a wary eye on the cause of reflex constipation, you will often be successful where others have failed.

Closely allied to this subject is the *selection of a purgative*, where it is necessary to open the bowels freely, and then have them at rest for some days after. This is desirable when operating for piles, or anal fissure, when sewing up a lacerated perineum, replacing a displaced uterus, putting in a pessary; or the graver matters of performing lithotomy, or ovariotomy, or operating for for vesico-vaginal fistula. In all these, and some other cases,

it is eminently desirable to open the bowels efficiently, and then to secure quiet in them for days after. You have been told that rhubarb first opens the bowels and then locks them up. Give twenty grains of Pulv. Rhei. or an ounce of the tincture the day before operating. This will usually secure the end desired.

Now a few words are desirable on *the choice of aperients for habitual constipation.* Let us start with infants and children. Some directions have been given which are well worth remembering. In addition to these measures it is well to give the child oatmeal or 'hominy' porridge for breakfast, a piece of 'parkin,' (oatmeal and treacle loaf or cake,) a few prunes, figs, plain or stewed, or fruit of any kind. Regulation of the bowels by a suitable diet is always desirable where it is effective. Castor-oil is a good though unpalatable laxative when one is indicated. Where the constipation is more pronounced, it may be necessary to add two drops of croton-oil to the ounce bottle of castor-oil, and give a teaspoonful of this every second morning as required. (This forms a capital laxative for adults who cannot swallow pills.)

[The most palatable and efficacious laxative for habitual constipation in either children or adults, is the Elixir Frangulaxine spoken of on page 102.]

Now as to *laxatives for adults.* Constipation is a common malady existing in various degrees of obstinacy. For ordinary constipation a pill of aloes and myrrh every night, or every other night, is sufficient. When inoperative try Pil. Colocynth. Co. instead. (In all these pills five grains is supposed to be the dose given. Such a pill is not so large as to offer

obstacles to its being easily swallowed.) If this is inoperative try a Cockle—very good pills, Cockles!. Or prescribe,

Podophylli, gr. ½.
Pulv. Capsici, gr. ss.
Pil. Colocynth. Co., gr. iv.

Capsicum or black pepper will always relieve griping—a not unimportant matter—or extract of Hyoscyamus (gr. i.) may be used instead.

Even this may not do. In addition to imperfect secretion from the intestinal glands, there may also exist atony of the muscular fibre of the bowel in many cases. Here extract of belladonna, or strychnia may be added.

Strychniæ, gr. 1-26th.
Ol. Croton Tiglii, gtt. i.
Pulv. Capsici, gr. ii.
Pil. Cambogæ Co., gr. iii.

forms a brisk purgative-laxative; but even it may be required twice a day in exceptional cases. But instead of such potent laxatives, it is pleasanter usually to order one of the milder pills every night, or second night, and some mineral laxative in the morning. The morning draught may consist of a dessert-spoonful of citrate of magnesia, or Carlsbad Salts; or some water, as Pulna, Fredericks-hall, or Hunyadi Janos; or a Seidlitz Powder, or effervescing Sulphate of Soda. By varying the pill at night, and the morning draught, almost any case of constipation may be brought around in time. But remember this—all such treatment is disagreeable and troublesome; and you must keep your patients up to the mark, else they will become remiss.

Sometimes a tumblerful of cold water on getting out of bed in the mornings will attain what active measures may have failed to achieve. But never abandon the case; if

mild measures fail, try more active ones: follow them out; sometimes rubbing or kneading the abdomen on getting up is required. The use of suppositories of soap, or hardened honey, advocated by Trousseau, are not much in use in this country. Nevertheless keep your eyes open to these unusual measures in very obstinate cases. Sometimes a strong infusion of senna in black coffee first thing in the morning has been found very successful. This made the fortune of a Viennese doctor in the case of an Austrian princess.

It is often well to secure an action of the bowels night and morning. Any load in the lower bowel at night aggravates all pelvic trouble, as a large uterus, or ovary, or chordee in gonorrhœa. This motion at night is also desirable when there is a bitter taste experienced in the mouth when waking in the morning. This bitter taste is the indication of imperfect digestion, and under these circumstances there exists usually some defective action of the liver. When the epithelium of the tongue is stained with bile this is pretty certainly the case. Here it is well to give laxatives which are also hepatic stimulants.

Of *agents which stimulate the liver*, and bring away bile-laden stools, are conspicuously mercurials, ipecacuanha, and sulphate of soda. Euonymin is also a fairly potent hepatic stimulant. Now you all know that the liver is the furnace in which waste and spare albuminoids are oxidized into urea and uric acid. The bile acids—glycocholic and tauro-cholic —are also nitrogenized bodies. The functions of the liver and kidneys are closely linked together; and in those derangements where the urine has a thick sediment and the bowels are disordered, the old-fashioned doctor

who shook his head and oracularly uttered "Liver!" was not such a fool as it has recently been the rule to regard him. There is nitrogenized waste in the blood; so do two things: First, cut down the amount of albuminoids eaten or drank, in order to reduce the demand upon the liver. Then sweep away the waste from the blood by a pill at bedtime.

Pulv. Pip. Nig., gr. ii.
Pil. Cal. Col. Co., gr. iii.

and in the morning:

Sodæ Pot. Tart., ʒ i.
Sodæ Sulphatis, ℥ ss.
Tinct. Zingiberis, ʒ ss.
Inf. Gentian, ℥ i.

with an equal quantity of boiling water, so as to make the draught as hot as can be comfortably borne. Let this be done twice or thrice a week till the tongue is clean. When that is done, give the

Sodæ Sulphat, ʒ i.
Sodæ Pot. Tart., ℥ ss.
Tinct. Nuc. Vom., gtt. vi.
Inf. Cascarillæ, ℥ i.
Ter in die,

before meals, and the pill twice a week.

If there be *general asthænia*, do not proceed to give iron until the tongue is thoroughly clean, the water clear, and the appetite good: and then commence with two or three drops of the dialysed iron once a day after food. Here you wish to give the iron as a hæmatic only: if you give it in tonic doses, it will upset the assimilative processes, and disagree with the patient to a moral certainty.

In other cases, where there is only slight constipation, with deposits in the urine, especially after meals, give the old-fashioned dinner pill·

Pulv. Ipecacuanha, gr. i.
Pulv. Capsici, gr. ss.
Ext. Cinchonæ, gr. iii.
Pil. Al. et Myrrh, gr. i.

every day after dinner. It will be found very efficacious. But the student must study his cases carefully to see his way clear in these disturbances of the assimilative processes. If this dinner pill does not act sufficiently, give the morning laxative twice or thrice a week, so long as the bowels require it.

Then as to the *union of laxatives with tonics.* It is well often to combine these two agents. In convalescence tonics never act genially if there be not at the same time regular and sufficient action of the bowels. So add sulphate of magnesia, or sulphate of soda to the tonic:

Mag. Sulphat., ℈i.
vel Sodæ Sulphat., ʒi.
Quin. Sulph. gr. i.
Ac. Phosp. Dil., ♏ xv.
Inf. Gentian., ʒi.
Ter in die,

before meals, and ten minims of dialyzed iron after dinner daily, will usually give good results, or:

Mag. Sulphat., ʒi.
Tinct. Fer. Mur., ♏ x.
Liq. Strychniæ, ♏ iv.
Inf. Quass, ʒi.
Ter in die,

forms a less expensive form of tonic, of much utility.

As other *tonics in gouty subjects, or* those who are *rheumatic,* or recovering from acute gout or rheumatism, it may be desirable to give:

Mag. Sulph., ℈i.
Pot. Bicarb., ℈ss.
Fer. Am. Cit., gr. v.
Inf. Quass, ʒi.
Ter in die,

before meals, with a draught of water. (The importance of dilution has been pointed out in a previous chapter.) If necessary, give the Pil. Cal. Co. once or twice a week at bedtime.

But in this use of laxatives, with occasional mercurials, avoid the pitfall of letting the patient eat with unlicensed abandon. To sweep away nitrogenized waste, and so relieve the assimilative process from the accumulation of debris, is to improve the appetite; just as a fire burns up when the ashes, which interfere with oxidation, are poked out. But if the dietary be not at the same time regulated, and the albuminoids cut down, the condition is a very undesirable one, and the double stimulation of the assimilative processes by too liberal supplies of albuminoid food on the one hand, and the exhibition of hepatic stimulant-laxatives on the other, will in time land the patient in a very unhappy state, from which it will not be easy to rescue him. This therapeutic plan can cut both ways, according to the dietary adopted.

To stimulate the liver, it is at times well to place a large hot poultice over the right side: this is a measure the astute student will do well to bear in mind.

When the tongue is very foul, it may be well on the second morning of the treatment to give

Calomel, gr. iv.
Pulv. Jalapæ, gr. xv.

and so open the bowels freely. This usually brings away copious bile-laden evacuations, after which the tongue cleans under the night pill and the day medicine (previously recommended). Sometimes these morning powders have to be repeated at intervals of three or four days.

When in *ascites, or dropsy*, or in the constipation of meningitis, it becomes necessary to resort to cathartics,

Elaterin., gr. 1-20.
Pulv. Jalapæ, ʒ ss.

or: Pulv. Cambogiæ, gr. iii.
Pulv. Pip. Nigr., ʒss.
Potass. Bitartrat., ʒii.

may be given every second morning, along with the appropriate measures, for meningitis and for dropsy. In all these cases free catharsis gives great relief.

Now, in conclusion, let me tell the student to strive to see what are the indications for treatment; what is most prominent, pain, sleeplessness, fever, collapse, hæmorrhage, dyspnœa; what in this case calls most imperiously for attention. He is taught too exclusively, at present, to look at disease from a dead-house point of view. To make a diagnosis which would be corroborated in the dead-house is the great matter! Yes, so it is at a medical school; but in practice for yourself, remember that a living, grateful patient, who has got well under your care, is worth far, far more to you than any amount of accurate diagnosis—which, so far as other persons and their opinions are concerned, is as voiceless to further your interests as the tombstones in the churchyard which mark your failures.

CHAPTER XIII.

A COUNTER-IRRITANT: ITS ACTION.

BY JOHN CHIENE, F. R. C. S., E.,
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An irritant acts either directly on the tissues to which it is applied, or indirectly through the nervous system. The nervous mechanism is a combination of an afferent impulse along the sensory nerves of the part to which the irritant is applied. The sensory nerves are in connection with a vaso-motor centre, in which, as a result of the afferent stimulus, a change takes place. The result of this change is an alteration in the condition of the walls of the blood-vessels which are under the command of the vaso-motor centre.

A mustard blister is applied to the skin at s (Fig. 1). An impulse passes along the sensory nerve s N. A change takes place at v M, the vaso-motor centre; the result is an efferent impulse along the vaso-motor nerve v M N, the result is a change in the size of the blood-vessel B. Dilatation takes place.

This is the generally allowed explanation of an indirect irritant. A counter-irritant acts also through the nervous system. Let us now suppose that we have an inflammation of the kidney. The blood-vessels of the kidneys are dilated with a slow flow of blood through them. Let the word "congestion" be used for this condition to distinguish it from dilatation of the blood-vessels with a quickened blood-flow. For this condition let us use the word "determination." In both of these conditions there is dilatation. In the first, *congestion*, the function of the kidney is improperly performed, the kidney is in a state of inflammation. In the second, *determina-*

tion, the function of the kidney is increased. When the kidney blood-vessels are restored to their normal size there is a condition, which,

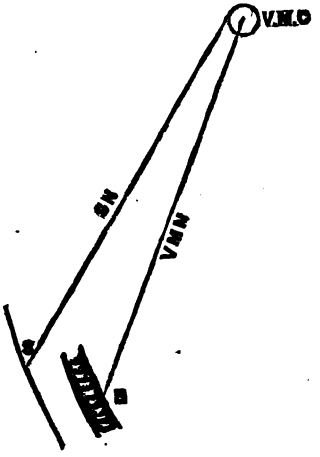

FIG. 1.

relatively to the state of determination or congestion, is one which we may speak of as *anæmia*.

Congestion is equivalent to dilatation with slow flow.

Determination is equivalent to dilatation with quick flow.

Anæmia is the normal condition of the blood-vessels.

Let us now suppose we have a kidney in a state of inflammation with congestion of the blood-vessels of the kidney, a mustard poultice is applied over the skin of the loins at S, the result is a change in the V M C, which rules the skin-vessels—a change takes place in this centre, followed by a dilatation of the blood-vessel of the skin B (Figs. 1 and 2). We have

also a result of the counter-irritant to the skin, an alteration in the size of the blood-vessels of the kidney, B′ (Fig. 2). From a state of congestion they pass into a condition of determination (with a free flow of urine), and from that to a normal condition which is relatively one of anæmia. In consequence of the poultice a change has taken place in V M C′ (Fig. 2) the vaso-motor centre which rules the vessels of the kidney.

What is the nature of this change in the vaso-motor centre of the kidney? Before considering this, let us consider the physiology of a vaso-motor centre. Let me take an illustration from common life. A man is driving a horse. The man may "feel the horse's mouth," the horse may

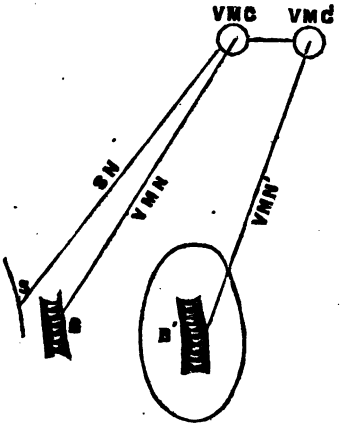

FIG. 2.

stumble, the man pulls on the reins and supports the horse; the horse may run away, the man loses all command. Let the man be the vaso-motor centre, the horse the blood vessel.

When the horse runs away, the man has lost all command,—that is the condition in the vaso-motor centre in which the blood-vessels are congested—dilatation with slow flow—the vaso-motor centre has lost command of the blood-vessels. When the horse stumbles and the man pulls it up, that is analogous to that condition in the vaso-motor centre in which the vaso-motor centre is active,—its function is increased when the man feels the horse's mouth, that is analogous to a condition in which the vaso-motor centre is normal.

Let us now consider the conditions in a muscle analogous to these three conditions of the vaso-motor centre. A muscle is inflamed, the blood-vessels of the muscle are congested —dilatation and slow flow ; a muscle is contracted as in tetanus—the blood-vessels are dilated with quick flow determination — a muscle is at rest, there is anæmia relatively to the state of congestion or determination.

To take another example, in the brain. When inflamed, there is congestion, dilatation, and slow flow,—in thought, the functions of the brain are active ; the blood-vessels of the brain are dilated with quick flow determination. The brain is at rest as in sleep, the blood vessels are anæmic.

There are then *three* conditions in an organ, (1) at rest, normal ; (2) its functions increased ; (3) its functions abrogated. These three conditions are associated with an alteration in its blood supply. Physiologists tell us that this is true of a muscle and of the brain. May it not also be true of a vaso-motor centre ? In it we have the three conditions—the function of the vaso-centre may be normal, the function of the vaso-motor centre may be increased, or it may be lowered. In

the first we have relative *anæmia* of the centre ; in the second we have *determination* of blood to the centre ; in the third we have *congestion* of the centre.

Let us now apply these considerations to the counter-irritant in the case of the inflamed kidney.

When the kidney is inflamed the blood-vessels of the organ are dilated with slow flow congestion—the vaso-motor centre has lost command of the blood-vessels of the kidney —its function is in abeyance—it is congested. If we now apply a counter-irritant to the skin, and, as a result through the sensory nerves, we have a change in the vaso-motor skin centre with a corresponding change in the blood-vessels of the skin. There is an increase in the amount of blood in the vaso-motor centre. There is a flow of blood to the vaso-motor centre, the neighboring parts are bled, the vaso-motor centre of the kidney is in close anatomical relation to the vaso-motor centre of the skin over it. The kidney vaso-motor centre, which is congested, is bled; it supplies blood to the skin centre—the result is that the vaso-motor kidney centre gradually regains its function. The kidney vesssels, as a consequence of the change in the vaso-motor centre, pass from congestion to determination —a free flow of urine takes place, and from determination to one of relative anæmia—the kidney is restored to a normal condition. If this explanation is verified by further investigation and experiment on animals by those who have the power to make such experiments, we shall then be able to throw aside all such terms as a change in tone, terms which mean nothing. I desire to express my conviction that a change in function of an

organ, be it a muscle, the whole brain, or a part of the brain, as a vaso-motor centre, must be accompanied by a change in the anatomy of the part. When we remember the temporary nature of the improvement that takes place on the application of a counter-irritant requiring its repetition or continuance in order that the result may be a permanent improvement, I think we must look to alteration in the blood supply as the most probable anatomical lesion. The organ at issue is so minute, that it may be only the blood plasma which bathes it, which may be altered in a moment. The withdrawal of a single minim of blood plasma from a vaso-motor centre may have an effect on that organ equivalent to the withdrawal of a couple of ounces of blood from the biceps muscle.

I have tried to show that when we apply a poultice over the loin in inflammation of the kidney, the good result which follows is in part due to a bleeding of the vaso-motor kidney centre to supply blood to the vaso-motor skin centre, which is in anatomical and physiological connection with the kidney centre. This bleeding at A (Fig. 3) is *microscopic;* the vaso-motor organs at the proximal end of the nervous mechanism are microscopic.

The counter irritant in the case of the kidney, acts however, in another way. We can inject the skin of the loin through the renal artery, there is a free arterial anastomosis between the blood-vessels of the kidney and the skin over it. The vessels of the skin are dilated, the blood-vessels of the kidney supply the blood. There is, therefore, also a *macroscopic* bleeding at B (Fig. 3). The action of the counter-irritant is twofold in the case of the kidney, a *microscopic* bleeding at A, re-

lieving vascular tension indirectly through the nervous mechanism ; there is also a *macroscopic* bleeding at B, relieving vascular tension directly.

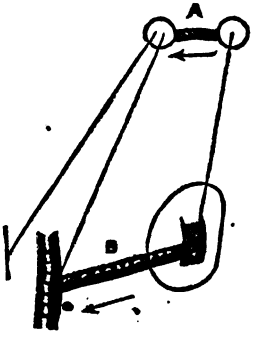

FIG. 3.

It may be asked, is it necessary to theorize about the microscopic bleeding at A ? Will the macroscopic bleeding at B not be sufficient to explain the good result that follows ? If we take the lung, when it is in a state of inflammation, a poultice over the chest relieves the condition, and in this case there can be no direct macroscopic bleeding ; as there is no direct anastomosis between the lung-vessels and the vessels of the chest-wall, the good result which follows must be due to the microscopic bleeding at A. Indirectly the lung vessels may be bled to supply the blood to the dilated vessels in the chest-wall, but this must act through the whole mass of blood, and, although it must be taken into account in explaining the good result, still it cannot be the main factor. In the case of the lung, the main factor must be at the proximal end of the mechanism, the bleeding must be *mi-*

croscopic, the lung centre being bled to supply the skin centre.

The counter-irritant action then is twofold, —in all cases the microscopic bleeding takes place; in some cases the macroscopic bleeding takes place, directly drawing blood, as in the kidney; in other cases the macroscopic bleeding, as in the lung, may act indirectly through the whole mass of blood in the body.

The counter-irritant comes under the class of remedies which relieve or cure inflammation by blood-letting, by relief of vascular tension, directly or indirectly, as the case may be. Counter-irritants may act locally or generally. A blister or a poultice is a local counter-irritant. A diaphoretic, a diuretic, a purgative, is a general counter-irritant. Take the case of a dose of castor-oil; it has been shown when castor-oil is administered, that the blood-vessels are dilated in the intestinal mucous membrane. The castor-oil may act as a direct irritant on the vessels, or indirectly through a nervous mechanism—it matters not which; in either case the intestinal vessels are dilated. The blood is drawn from other organs to supply the blood to the intestinal vessels. So also in the case of the diaphoretic to the skin vessels, and the case of the diuretic to the kidney vessels.

It is not to be forgotten that these remedies will also relieve vascular tension by withdrawing the serum of blood from the mass of blood; in this way still further relieving vascular tension.

Metastasis may be explained in the same way. The parotid is inflamed, its vaso-motor centre is congested, the congestion spreads

by continuity to neighboring parts and implicates the testicle centre.

CHAPTER XIV.

DIET FOR THE SICK.

CONTRIBUTED BY MRS. EMMA DRANT.
Matron of the Hospital of the Michigan College of Medicine, Detroit.

RESTORATIVE JELLY.

½ box Cox's gelatine; 1 tablespoonful powdered gum arabic; ½ pint port wine; juice of 1 lemon; 3 tablespoonfuls sugar; 2 cloves.

Soak all together 2 hours. Put the bowl of ingredients in a basin of boiling water (to keep from burning.) Stir until the mixture has melted, boil a moment more, then strain through flannel jelly-bag, and put to cool. The port wine may be replaced by any other liquor or beef essence if preferred. If beef essence is substituted omit *lemon and sugar* and use salt. A spoonful at a time is sufficient for patients too ill to swallow much.

PLUM PORRIDGE (*Excellent for Bowel Complaint.*)

Into 1 qt boiling milk stir 2 teaspoonfuls of flour, previously mixed with a little cold milk. Put in a handful of raisins and a little grated nutmeg. Boil 20 minutes, season with salt and strain. *Do not serve the raisins.*

CLEAR BEEF SOUP.

Cut a small quantity of beef very fine, soak in three times its bulk of cold water for two hours. Boil in bath two hours, then clear with white of egg. Add a clove, when cooking, if desirable.

CAUTION.—Never let meat boil fast; keep it just at the boiling point and skim often

SHERBET, OR WATER ICE.

Make some very strong lemonade. Take an ordinary tin pail, put it into a wooden bucket the bottom of which has been lined with a mixture of nine parts ice and 1 part coarse salt; pack ice and salt all around the pail, being careful not to drop any salt mixture into it. Finally, put your sherbet into the pail; let it stand for a while, then stir from the sides all that has thickened, cover until quite thick then beat hard with a spoon.

EGGS.

An egg beaten light, and mixed with a glass of milk, is very good for an invalid, who can eat nothing solid.

The yolks of eggs, when cooked, should be eaten by invalids, the white being less easily digested.

BEEF JUICE.

Broil a juicy round steak (cut thick); when seared, cut it into small pieces, put it in a lemon squeezer and squeeze out all the juice while hot. Add salt. When serving immerse the vessel, containing the juice, in a pan of hot water for a few minutes.

BROILED STEAK.

Sprinkle a very hot frying pan with salt (no butter), then sear both sides of your steak and serve.

MUTTON BROTH.

1 lb neck of mutton,
1 tablespoonful barley,
1 qt. cold water,
Salt and pepper to taste.

Remove all fat from the meat; cut the meat into small pieces—put lean meat, barley, bones and water to boil; when it comes to the boiling point, skim off all the fat, cover and

set back where it will only bubble for 3 hours; add seasoning and boil 10 minutes longer.

The meat is perfectly digestible.

NOTE.—Take fat off of all soup for invalids, when the mixture is cold; or, if it is necessary to use at once, skim with *fine blotting paper*.

REFRESHING DRINK IN FEVER.

Four ounces tamarinds, four ounces raisins; boil in three quarts of water, slowly, for fifteen or twenty minutes, or until the water is reduced nearly one-fourth; then strain, while hot, into a bowl with a lemon peel in it. When cool, use as a drink.

TO MAKE GRUELS.

Two tablespoonsful oat or corn meal stirred into one cup of *cold* water; then add one and one-half pints boiling water. Boil slowly one-half hour. Season with salt. Can be eaten with sugar and milk if desirable.

BEEF TEA, WITHOUT HEAT.

One-third pound lean beef, minced very fine; place it in fourteen ounces soft water (cold) to which has been added a pinch, or, about eighteen grains table salt and three or four drops muriatic acid; stir with a wooden spoon, and set it aside for an hour, stirring occasionally; then strain through a gauze or sieve and wash the residue left on the sieve with five additional ounces of cold soft water, pressing it so that all the soluble matter will be removed from the residue. Mix the two strainings and then the extract is ready for use. Drink freely every two or three hours.

BLACKBERRY AND WINE CORDIAL.

(*Useful in diarrhœa or bowel troubles.*)

To one-half bu. blackberries, well mashed, add a quarter lb. of allspice, two oz. each of cinnamon and cloves, pulverized well. Mix and boil slowly until properly done. Strain juice through flannel, and add to each pint of juice one lb. loaf sugar. Boil again for as long as possible without burning. Take off, and while cooling, add one-half gal. best Cognac brandy.

Dose.—For adult: one-half gill, to a gill; for a child, a teaspoonful or more according to the age.

TO COOK RICE.

Soak the rice seven hours in cold water and salt; have ready a stew pan with *boiling* water, throw in the rice and let it boil briskly ten minutes; *never stir*. Drain it on a colander, cover, and let it stand a few minutes by the fire. The grains will be double the usual size, and much easier to digest.

CHICKEN BROTH.

Take a rather old chicken, crush it with a mallet or rolling-pin, until it is in rags (bones and flesh), then boil in an earthen vessel until the strength is entirely extracted; season with salt.

APPLE SNOW.

(*A dainty dish for convalescents.*)

Take a small sauce dish of cold apple sauce; beat it very smooth with a wooden spoon; then beat the *white* of an egg until you can turn your plate over without dropping the egg off. Mix egg and apple sauce gradually and beat briskly until it is stiff. A dash of lemon extract improves the flavor.

MARYLAND OR BEATEN BISCUIT.

Flour and water, with a pinch of salt. Make a paste as thick as for pie crust; take your rolling-pin or a mallet and beat for an hour; cut into cakes and bake. Easily digested by invalids.

CRACKER GRUEL.

6 Tablespoons fine cracker crumbs.
1 Quart milk.
½ Teaspoon salt.

Put crumbs and milk into farina boiler and let it come to a boil; add salt and cook two minutes more.

VICTIMIZED CHOPS.

Trim all fat from a loin chop, cut very thick, lay it between two very thin chops, like a sandwich. Broil until the outside chops are burnt, the inner chop will be done and exceedingly juicy. Serve on a hot plate.

SHIRRED EGGS.

Butter a sauce dish, and into it break two eggs; put into the oven until the white sets; serve in the saucer with salt and butter.

WHITE CUSTARD.

Separate the yolks and whites of three eggs; use the whites only. Take, also, one-fourth teaspoonful of salt, two tablespoonsful of sugar. Give a light grating of nutmeg, then one pint rich milk.

Beat sugar, whites, salt and nutmeg; then add a little milk, and beat thoroughly; then add the rest of the milk. Bake in cups, set in a pan of water. When firm in the centre, put on the ice to cool.

LEMON SYRUP.

5 Lemons.
8 Pounds crushed sugar.
3 Ounces citric acid.
3 Quarts water.

Roll the lemons; peel and squeeze them. Use only one-half the peel.

Boil with sugar and water fifteen minutes, having removed all seeds. Pour into a jar, put in the acid while hot and stir until dissolved. Let stand until next day. Bottle and keep cool.

A tablespoonful to a glass of water makes delicious lémonade.

CRACKER PANADA.

Soak a cream cracker in a pint of water until it has absorbed almost the entire quantity. Sprinkle cinnamon and a little sugar over the top, then pour over the whole two tablespoonsful of wine, or other liquor.

REMEMBER:

When invalids are convalescing they are more particular about the minutiæ of their diet than when well.

Always serve as small a quantity as possible at once.

Let everything be neat and clean on the tray. Do not spill the tea in the saucer nor fill the gruel bowl more than one-half full.

When you make toast always roll it on your bread-board with the rolling-pin, to crush the crust; then put it on a hot plate in the oven, for a minute; cover with another hot plate and serve.

If you serve boiled eggs in the shells and wish to keep them from cooking hard after they have boiled three minutes, just take the back of the bowl of a teaspoon and crack one end a little, to stop the cooking process.

DRINK IN CASES OF DIARRHŒA.

A coffee-cup full of browned, coarse corn-meal, boiled in sufficient water to make it as strong as coffee. Drink as warm as possible.

EGG-NOG.

Strengthening for Convalescents.

1 egg.
1 table spoonful white sugar.
1 " water.
1 " milk.
1 " wine or other liquors.

Beat the white of the egg to a froth; then beat in the sugar; next the yolk, then the milk; wine and water.

ICE CREAM FOR INVALIDS.

As ice cream is sold in the stores it is too sweet for an invalid's palate, so we give a receipt for making it "just right."

1 cup of milk.
1 teaspoonful arrow root.
1 pint cream (not very thick).
½ cup of sugar.
½ teaspoonful essence (to suit taste).

Boil the milk until it begins to skin, then add dissolved arrow root. Boil a few minutes longer and set aside to cool; when cold add the other ingredients and freeze.

CURRANT JELLY.

Like ice cream, the ordinary currant jelly is too sweet for invalids, but this recipe may please any invalid.

1 pint currant juice.
1½ pints cold water.
1 tablespoon sugar.
1 lemon (juice only).
1 tablespoonful Cox's gelatine.

Pour a half pint of boiling water on the gelatine to dissolve it. Add the other ingredients and set on the ice to freeze.

GELATINE.

I buy the domestic gelatine in sheets from the druggist. To make a small quantity for a "*bonne bouche*" for an invalid, I take 3 sheets, or 1 oz., dissolved in 1 pint of warm water. When it is thoroughly dissolved I bring it to a boil, adding one half cup of sugar, the juice of a lemon, and the white of an egg. Beat it well, and put on ice. Remember, a tablespoonful served in a dainty dish may persuade your patient to ask for more; but a bowl-full will never accomplish that purpose. The eyes of invalids sometimes seem to act as stomachs to digest before the mouth receives.

OYSTERS ON ICE.

Take a piece of ice with square edges, or flat edges, just large enough to lay on a soup plate; make a cavity in the top of it, by putting a piece of stone or iron red hot on it; drain off the water and continue to apply the hot iron until you have a space large enough to hold three or four oysters. The oysters should be ready seasoned to suit the invalid, then placed in the ice "dish" and the soup-plate so covered with ferns, or vine leaves, that only the block of of ice, with the oysters, is visible. If the ice slips a napkin can be folded under it hidden, like the plate, with leaves.

PLAIN OMELET.

1 egg.
1 pinch of salt.
½ tablespoonful of milk.
A piece of butter the size of a hickorynut.

Beat the egg very light; add salt and milk. Have the pan very hot; put in the butter and then the egg. Shake the pan until the egg begins to settle, then brown well; run a broad bladed knife under it, fold one half over the other and serve hot.

ARROW ROOT GRUEL.

1 pint milk.
1 teaspoonful arrow root.
Salt to taste.

Let the milk just come to a boil; mix the arrow root smooth with a little cold milk and then stir it into the boiling milk and add a little salt. Cook gently 10 minutes longer.

WINE WHEY.

Drink for a very sick person.

Let 1 cup of fresh milk come to a boil. Stir in one half a wine glass of sherry wine. Boil a moment longer, strain as soon as it curdles. Put on ice to freeze; or, if used as a warm drink, serve at once.

LEMONADE.

Some people might consider the making of lemonade such a simple thing that they would laugh at my giving directions for it; but I have so often found a "glass of lemonade" to mean water with slices of lemon floating in it that I know *some* people may be taught if they will try.

Roll a lemon until it is perfectly soft; squeeze the juice into a glass, remove all seeds, add two teaspoonful of sugar and fill the glass with water and stirring well, then serve.

POTATO PUFF.

Two cupsful mashed potatoes; two tablespoonsful melted butter. Stir these with a seasoning of salt to a light, fine, creamy batter. Beat two eggs separately, and add with six tablespoonsful of sweet cream. Then beat altogether well and lightly. Pile in an irregular, jagged form in a dish and cook in quick oven till nicely colored.

WINE JELLY.

1½ packages Cox's gelatine.
1 pint cold water.
Juice of 3 lemons.
Rind of 1 lemon.

Let gelatine soak in the water one hour; then add three pints of boiling water and one pint of wine (sherry usually, though any kind may be used) and two pounds white sugar. Run into cups, or bowls, and let it stand in a cool place till it hardens. (Strain all through a fine sieve before slicing in the rind of the lemon).

Oranges, or even fruit pieces of any kind may be used in place of the lemon.

ORANGE WHEY.

The juice of one orange to one pint of sweet milk. Heat slowly until curds form, strain and cool.

EGG LEMONADE.

White of one egg, one tablespoon pulverized sugar, juice of one lemon, one goblet water. Beat together.

SAGO MILK.

Three tablespoonsful sago soaked in a cup of cold water one hour; add three cups boiling milk; sweeten and flavor to taste. Simmer slowly a half-hour. Eat warm.

BAKED MILK.

Put a half gallon of milk in a jar, and tie it down with writing-paper. Let it stand in a moderate oven eight or ten hours. It will be like cream, and is very nutritious.

PUNCH, WITHOUT LIQUOR.

Take the juice of six oranges and six lemons, adding sugar to suit the taste. Put to this a quantity of pounded ice and some sliced pine-apple, pouring over it two quarts of water. This is an agreeable summer beverage for anybody, sick or well.

CHAPTER XV.

ERRORS IN NURSING.

[The EDITOR would especially commend the following article from the pen of an English physician. Having spent some nine or ten months of the past two years on his back, owing to a run and relapses from a fever, he has abundant reasons for endorsing the several points in the article that he has taken the liberty to italicise.]

Do not walk on tiptoe, for this, in addition to its unusual elaboration of the gait, invariably causes a certain amount of creaking.

Speak in low tones, *but don't whisper;* a whisper will often awaken a sleeper who would not be disturbed by ordinary conversation; and never say "Hush!" Let your clothes and foot covering be of as noiseless and unobtrusive a character as possible, and instead of gliding and tottering about like a rickety ghost, do not hesitate to walk. *If you have occasion to say anything in the room, say it so that the patient can hear it if he wishes*, and do not let him be aware of your conspiring privately with others, especially at the door.

That door has much to answer for. If it be visible from the bed, people open it cautiously, put their heads in, and slowly withdraw again. If, as is more frequently the case, it is screened by the bed curtains, mysterious openings and shuttings are heard, unattended with any ingress or egress, and *sotto voce* colloquies go on outside. *When you enter, do so honestly and at once; do not spend five minutes in turning the handle, like a housebreaker*, thereby producing a series of irritating little clicks, finally terminating in a big snap, with which the door flies open. If the

latch be at all rusty, a handle that is slowly wound back in this way will often stick, and either require to be rattled back into position, or, if left as it is, may start back suddenly after a time of its own accord with a report like a pistol shot.

It is always well to recollect that it by no means follows that a sick person is asleep because his eyes are shut; he may be acutely conscious of all that is passing in the room, though unable or unwilling to make any sign; and nothing can be more maddening, under such circumstances, than to have people hush-shing and whispering around, and creaking about on the tips of their toes. We have all sympathized in our hearts with poor Sir Leicester Dedlock when his tongue was smitten with paralysis, with his sister constantly bending over him with clasped hands and murmuring, "He is asleep!" till, goaded to desperation, he makes signs for his slate and writes, "I am not."

Never stand at the foot of the bed and look at the patient. While talking to him it is better to sit by the side of the bed, and as near the pillow as possible, so that you may converse easily, while your face and body are turned in the same direction as his. By this means, you can make all necessary observation of his features without enforcing the arrest of his eyes to your own, which is so embarrassing and disagreeable to one lying in bed, and is almost unavoidable when facing him. Keep him in as comfortable a position as possible, by all means, but don't be too demonstrative in smoothing the pillows and little offices of that sort. Fidgety attentions will worry him, and do him more harm than downright neglect.

When you are sleepy, it is better for your charge, as well as for yourself, that *you should go to bed at once*, and get that repose in slumber to which you *must* succumb eventually, however strong your devotion may be, and however great the interests at stake. It is not necessary to dwell here on the prudence of economizing your strength, that you may be capable of greater or prolonged exertions, should the need for them arise, or to look at this detail from the point of view which affects yourself. But in any case, you can be of little or no service, worn out with fatigue, and in a condition more akin to somnambulism than vigilance, and the spectacle of a nodding, dozing nurse is neither soothing nor reassuring to the sufferer; while, if you be one near and dear to him, he will be tormented with anxiety lest you should impair your own health on his account. In such a case as this, you cannot do better than lie down *comfortably on a sofa or bed* where he can watch you, and there have a good nap—for his sake.

Some people have a great notion of "tempting the appetite" by the suggestion of all manner of eatables and drinkables, or by bringing them ready prepared to the bedside experimentally. This, no doubt, is very well at times—during convalescence, for instance; but as a medical man, I am persuaded that it is a mistake in the earlier stages of an illness, when all food is loathed alike, and the creation of an appetite is an impossibility. *The only thing to be done is to impress on the invalid the necessity of taking what is ordered for him at stated times, just as he takes his medicine; and it should be prepared on the same footing as a medicine*—with the understanding that it is

a nauseous dose, and must be presented in a form that will admit of its being swallowed as compactly and rapidly as possible. *It is worse than useless to employ flavoring matters at this stage*, with the idea of making anything palatable; if you can render his food absolutely tasteless, you will do far more for him. And beyond this forcible administration, so to speak, of a certain amount, I think little good is gained by suggesting this or that delicacy, in the hope that your patient may be induced to "fancy" something. We may take it for granted that when he feels inclined for anything he will ask for it spontaneously; and the promptings of nature are more likely to lead him to a choice of what is best for him, than our string of suggestions. I have frequently observed that when sick people have mentioned a desire for any special food, they almost invariably eat of it when it is procured; whereas it often happens when they have been persuaded to assent to something which has been proposed, the inclination—if it ever existed—has passed away before the dish or article can be brought to them.

I say, "if it ever existed;" for there is no doubt that *a patient often yields to suggestions in sheer extremity, simply for the sake of peace.* I happened to be in a sick room the other day, when a relative arrived on the scene. She had been warned to repress all emotion, and succeeded very well; but her tender solicitude was wholly irrepressible. I am sure that she asked at least twenty questions in less than a minute, until the unhappy sufferer writhed under them. "Shall I raise your head a little? Will you have another pillow? Wouldn't you like your head a little higher?

Let me fan you. Will you have the blind up? What can I get you? Some arrowroot? Do try some! I am sure you will be more comfortable with another pillow. Will you have one?—yes; do! I'll go and get one. Will you have a cup of tea? I'm sure it would do you good. A cup of tea won't take a minute," etc. The cup of tea has been a dreadful instrument of torture in the hands of well meaning people, who would not knowingly have teased a fly.

These are small things, you will say. But *a small thing in health is often magnified to a grave matter in sickness*, and the sum total of them all may be as serious in their effect as the disease itself. It will be seen that the few points upon which I have laid stress are such as are calculated to promote tranquility of mind—which, indeed, is half the battle in medical treatment. It is generally conceded that a trained nurse, who has no interest in the patient beyond that which the duties of her office impose, is better fitted to expedite his recovery than those who are bound to him by ties of affection, however welcome their presence may be in the hour of affliction.

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